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=> d his

     (FILE 'HOME' ENTERED AT 14:54:42 ON 06 DEC 2004)

     FILE 'HCAPLUS' ENTERED AT 14:54:47 ON 06 DEC 2004
L1             1 US20040063650/PN
               E JP2002-282874/APPS
L2             1 JP2002-282874/APPS
L3             1 L1-2

     FILE 'REGISTRY' ENTERED AT 14:55:23 ON 06 DEC 2004

     FILE 'HCAPLUS' ENTERED AT 14:55:25 ON 06 DEC 2004
L4             TRA L3 1- RN :         5 TERMS

     FILE 'REGISTRY' ENTERED AT 14:55:25 ON 06 DEC 2004
L5             5 SEA L4

     FILE 'WPIX' ENTERED AT 14:55:28 ON 06 DEC 2004
L6             1 US20040063650/PN
L7             1 JP2002-282874/AP,PRN
L8             1 L6-7

=> b hcap
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FILE COVERS 1907 - 6 Dec 2004  VOL 141 ISS 24
FILE LAST UPDATED: 5 Dec 2004  (20041205/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> d all l3

L3   ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2004 ACS on STN
AN   2004:269858  HCAPLUS
DN   140:287102
ED   Entered STN:  02 Apr 2004
TI   Method for producing 3-methylthiopropanal from acrolein and methyl
     mercaptan
IN   Shiozaki, Tetsuya; Haga, Toru
PA   Sumitomo Chemical Company, Limited, Japan
SO   U.S. Pat. Appl. Publ., 4 pp.
     CODEN: USXXCO
DT   Patent
LA   English
IC   ICM  C07C323-22
NCL  514041000
CC   23-14 (Aliphatic Compounds)
     Section cross-reference(s): 45
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   US 20040063650      A1     20040401    US 2003-665005         20030922 <--
     JP 2004115461       A2     20040415    JP 2002-282874         20020927 <--
     EP 1408029          A1     20040414    EP 2003-21191          20030924 <--
          R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
          IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
PRAI JP 2002-282874       A      20020927  <--
CLASS
 PATENT NO.       CLASS  PATENT FAMILY CLASSIFICATION CODES
```

US 2004063650	ICM	C07C323-22
	NCL	514041000
JP 2004115461	FTERM	4H006/AA02; 4H006/AC63; 4H006/BA32; 4H006/BA50; 4H006/BA51; 4H006/TA04; 4H006/TB56; 4H039/CA80; 4H039/CF10

<--

OS CASREACT 140:287102

AB 3-Methylthiopropanal is produced in high yield and selectivity by supplying acrolein and Me mercaptan together or sequentially with an acidic compound (e.g., acetic acid) and a basic compound (e.g., pyridine) into a reaction system to react the acrolein with the Me mercaptan, where the basic compound is used in an amount of about 0.3 mol or less per mol of the acidic compound

ST methylthiopropanal manuf acrolein reaction methyl mercaptan

IT Thioethers
RL: SPN (Synthetic preparation); PREP (Preparation)
(3-methylthiopropanal; method for producing 3-methylthiopropanal from acrolein and Me mercaptan)

IT Addition reaction
(in a method for producing 3-methylthiopropanal from acrolein and Me mercaptan)

IT Acids, uses
Bases, uses
RL: CAT (Catalyst use); USES (Uses)
(in a method for producing 3-methylthiopropanal from acrolein and Me mercaptan)

IT Etherification
(thioetherification; in a method for producing 3-methylthiopropanal from acrolein and Me mercaptan)

IT 74-93-1, Methyl mercaptan, reactions 107-02-8, Acrolein, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(method for producing 3-methylthiopropanal from acrolein and Me mercaptan)

IT 3268-49-3P, 3-Methylthiopropanal
RL: SPN (Synthetic preparation); PREP (Preparation)
(method for producing 3-methylthiopropanal from acrolein and Me mercaptan)

IT 64-19-7, Acetic acid, uses 110-86-1, Pyridine, uses
RL: CAT (Catalyst use); USES (Uses)
(method for producing 3-methylthiopropanal from acrolein and Me mercaptan using)

=> b reg
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STRUCTURE FILE UPDATES: 5 DEC 2004 HIGHEST RN 792236-36-3
DICTIONARY FILE UPDATES: 5 DEC 2004 HIGHEST RN 792236-36-3

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> d ide l5 tot

L5 ANSWER 1 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN
RN **3268-49-3** REGISTRY
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Propionaldehyde, 3-(methylthio)- (6CI, 7CI, 8CI)
OTHER NAMES:
CN .beta.-(Methylmercapto)propionaldehyde

CN .beta.-(Methylthio)propionaldehyde
CN .beta.-(Methylthio)propionic aldehyde
CN 3-(Methylmercapto)propionaldehyde
CN 3-(Methylthio)propanal
CN 3-(Methylthio)propionaldehyde
CN Methional
CN NSC 15874
FS 3D CONCORD
MF C4 H8 O S
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CSCHEM, DIPPR*, EMBASE, HODOC*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, NAPRALERT, NIOSHTIC, RTECS*, SPECINFO, TOXCENTER, ULIDAT, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Conference; Journal; Patent; Report
RL.P Roles from patents: BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); CMBI (Combinatorial study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1037 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1040 REFERENCES IN FILE CAPLUS (1907 TO DATE)
29 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L5 ANSWER 2 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN
RN **110-86-1** REGISTRY
CN Pyridine (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Azabenzene
CN Azine
CN CP 32
CN NSC 141574
CN NSC 406123
FS 3D CONCORD
DR 733733-47-6, 6999-00-4, 163392-20-9, 62301-32-0, 152758-95-7, 85404-19-9, 85404-20-2, 82005-06-9, 45410-39-7
MF C5 H5 N
CI COM, RPS
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT, PS, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Book; Conference; Dissertation; Journal; Patent; Preprint; Report
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.P Roles for non-specific derivatives from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process);

PRP (Properties); RACT (Reactant or reagent); USES (Uses)
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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

44587 REFERENCES IN FILE CA (1907 TO DATE)
6335 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
44642 REFERENCES IN FILE CAPLUS (1907 TO DATE)
8 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L5 ANSWER 3 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN
RN **107-02-8** REGISTRY
CN 2-Propenal (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Acrolein (8CI)
OTHER NAMES:
CN 2-Propen-1-one
CN Acrylaldehyde
CN Acrylic aldehyde
CN Allyl aldehyde
CN Aqualin
CN Magnacide B
CN Magnacide H
CN NSC 8819
CN Prop-2-en-1-al
CN Propenal
FS 3D CONCORD
DR 25314-61-8
MF C3 H4 O
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT, PS, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Book; Conference; Dissertation; Journal; Patent; Report
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
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RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); CMBI (Combinatorial study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
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PRP (Properties); RACT (Reactant or reagent); USES (Uses)

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

12004 REFERENCES IN FILE CA (1907 TO DATE)
273 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
12014 REFERENCES IN FILE CAPLUS (1907 TO DATE)
5 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L5 ANSWER 4 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN
RN **74-93-1** REGISTRY
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Mercaptomethane
CN Methyl mercaptan
FS 3D CONCORD
DR 63933-47-1
MF C H4 S
CI COM
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PIRA, PROMT, PS, RTECS*, SPECINFO, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
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DT.CA CAplus document type: Conference; Dissertation; Journal; Patent; Preprint; Report
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
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RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent)

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

6878 REFERENCES IN FILE CA (1907 TO DATE)
76 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
6887 REFERENCES IN FILE CAPLUS (1907 TO DATE)
6 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L5 ANSWER 5 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN
RN **64-19-7** REGISTRY
CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN acetic acid
CN Aci-Jel
CN E 260
CN Ethanoic acid
CN Ethanoic acid monomer
CN Ethylic acid
CN Glacial acetic acid
CN Methanecarboxylic acid

CN NSC 111201
CN NSC 112209
CN NSC 115870
CN NSC 127175
CN NSC 132953
CN NSC 406306
CN Vinegar acid
FS 3D CONCORD
DR 77671-22-8
MF C2 H4 O2
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT, PS, RTECS*, SPECINFO, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Book; Conference; Dissertation; Journal; Patent; Preprint; Report
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); CMBI (Combinatorial study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.P Roles for non-specific derivatives from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
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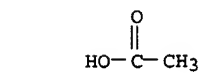
RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

88553 REFERENCES IN FILE CA (1907 TO DATE)
4572 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
88657 REFERENCES IN FILE CAPLUS (1907 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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FILE LAST UPDATED: 3 DEC 2004 <20041203/UP>
MOST RECENT DERWENT UPDATE: 200477 <200477/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

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>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE http://thomsonderwent.com/coverage/latestupdates/ <<<

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DOCUMENTATION NOW AVAILABLE IN DERWENT WORLD PATENTS INDEX
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HIT STRUCTURES WITHIN THE BIBLIOGRAPHIC DOCUMENT <<<

>>> SMILES and ISOSMILES strings are no longer available as
Derwent Chemistry Resource display fields <<<

=> d all dca dmm l8

L8 ANSWER 1 OF 1 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN 2004-294416 [27] WPIX
DNC C2004-112615
TI Production of 3-methylthiopropanal used as intermediate for producing methionine used as feed supplement or its hydroxy analogue, comprises supplying acrolein and methyl mercaptan with acidic and basic compounds.
DC B05 C03 D13 E17
IN HAGA, T; SHIOZAKI, T
PA (SUMO) SUMITOMO CHEM CO LTD
CYC 34
PI US 2004063650 A1 20040401 (200427)* 4 C07C323-22 <--
EP 1408029 A1 20040414 (200427) EN C07C319-18
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR
JP 2004115461 A 20040415 (200427) 6 C07C319-18
CN 1496979 A 20040519 (200455) C07C323-22
ADT US 2004063650 A1 US 2003-665006 20030922; EP 1408029 A1 EP 2003-21191 20030924; JP 2004115461 A **JP 2002-282874 20020927**; CN 1496979 A CN 2003-125534 20030925
PRAI **JP 2002-282874 20020927**
IC ICM C07C319-18; C07C323-22
AB US2004063650 A UPAB: 20040426
NOVELTY - Production of 3-methylthiopropanal comprises supplying acrolein and methyl mercaptan with acidic and basic compounds into a reaction system to react acrolein with methyl mercaptan. The basic compound is used in an amount of up to 0.3 mol/mol of the acidic compound.
USE - The method is used for preparing 3-methylthiopropanal useful as an intermediate for producing methionine as a feed supplement or its hydroxy analogue.
ADVANTAGE - High quality 3-methylthiopropanal is produced while suppressing the production of by-products having high boiling points.
Dwg.0/0
FS CPI
FA AB; DCN
MC CPI: B10-D01; C10-D01; D03-G; D03-H01; E10-D01C; E11-H
M2 *01* DCN: RA3BU8-K; RA3BU8-P
M2 *02* DCN: R00808-K; R00808-S
M2 *03* DCN: R00332-K; R00332-S
M2 *04* DCN: R00247-K; R00247-V; R00247-U; R07345-K; R07345-V; R07345-U
M2 *05* DCN: R00916-K; R00916-V; R00916-U
M3 *01* DCN: RA3BU8-K; RA3BU8-P
M3 *02* DCN: R00808-K; R00808-S
M3 *03* DCN: R00332-K; R00332-S
M3 *04* DCN: R00247-K; R00247-V; R00247-U; R07345-K; R07345-V; R07345-U
M3 *05* DCN: R00916-K; R00916-V; R00916-U
DRN 0247-S; 0247-U; 0332-S; 0332-U; 0808-S; 0808-U; 0916-S; 0916-U

=> b home
FILE 'HOME' ENTERED AT 14:56:39 ON 06 DEC 2004

=>

=> b reg
FILE 'REGISTRY' ENTERED AT 15:34:32 ON 06 DEC 2004
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provided by InfoChem.

STRUCTURE FILE UPDATES: 5 DEC 2004 HIGHEST RN 792236-36-3
DICTIONARY FILE UPDATES: 5 DEC 2004 HIGHEST RN 792236-36-3

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

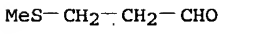
Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> d ide l12

L12 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN **3268-49-3** REGISTRY
CN **Propanal, 3-(methylthio)- (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Propionaldehyde, 3-(methylthio)- (6CI, 7CI, 8CI)**
OTHER NAMES:
CN **.beta.-(Methylmercapto)propionaldehyde**
CN **.beta.-(Methylthio)propionaldehyde**
CN **.beta.-(Methylthio)propionic aldehyde**
CN **3-(Methylmercapto)propionaldehyde**
CN **3-(Methylthio)propanal**
CN **3-(Methylthio)propionaldehyde**
CN Methional
CN NSC 15874
FS 3D CONCORD
MF **C4 H8 O S**
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS,
BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,
CHEMINFORMRX, CHEMLIST, CHEMSAFE, CSCHEM, DIPPR*, EMBASE, HODOC*,
IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, NAPRALERT, NIOSHTIC, RTECS*,
SPECINFO, TOXCENTER, ULIDAT, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Conference; Journal; Patent; Report
RL.P Roles from patents: BIOL (Biological study); FORM (Formation,
nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP
(Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses);
NORL (No role in record)
RLD.P Roles for non-specific derivatives from patents: BIOL (Biological
study); PREP (Preparation); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological
study); CMBI (Combinatorial study); FORM (Formation, nonpreparative);
OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties);
RACT (Reactant or reagent); USES (Uses); NORL (No role in record)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1037 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1040 REFERENCES IN FILE CAPLUS (1907 TO DATE)
29 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

Search done by Noble Jarrell

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     (FILE 'HOME' ENTERED AT 14:54:42 ON 06 DEC 2004)

     FILE 'HCAPLUS' ENTERED AT 14:54:47 ON 06 DEC 2004
L1             1 US20040063650/PN
               E JP2002-282874/APPS
L2             1 JP2002-282874/APPS
L3             1 L1-2

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     FILE 'HCAPLUS' ENTERED AT 14:55:25 ON 06 DEC 2004
L4               TRA L3 1- RN :         5 TERMS

     FILE 'REGISTRY' ENTERED AT 14:55:25 ON 06 DEC 2004
L5             5 SEA L4

     FILE 'WPIX' ENTERED AT 14:55:28 ON 06 DEC 2004
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L7             1 JP2002-282874/AP,PRN
L8             1 L6-7

     FILE 'REGISTRY' ENTERED AT 15:06:58 ON 06 DEC 2004
L9           121 C4H8OS NOT ((PMS OR MAN OR IDS)/CI OR UNSPECIFIED OR COMPD OR C
L10           14 L9 AND METHYLTHIO
L11            2 L10 AND PROPIONALDEHYDE
               SEL RN 2
L12            1 E1 AND L11

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               E ACROLEIN/CT
               E E3+ALL
L15        12015 ACROLEIN/CT
L16         4967 L15 (L) RACT+NT/RL
               E MERCAPTAN/CT
               E E4+ALL
               E E2
               E E3+ALL
L17       149167 "THIOLS (ORGANIC)"+OLD,NT/CT
L18        41326 L17 (L) RACT+NT/RL
               E SHIOZAKI T/AU
L19            6 E3-4
               E SHIOZAKI TETSUYA/AU
L20           69 E3
               E HAGA T/AU
L21          109 E3
               E HAGA TORU/AU
L22          104 E3
L23        27489 (SUMITOMO (1A) CHEM?)/CS,PA
L24           60 L13-14 AND L15-16 AND L17-18
L25            1 L24 AND L19-22
L26            1 L24 AND L23
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L28           59 L24 NOT L27
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L30           59 L28 AND L29
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L33           28 L31 NOT L32
L34           28 L33 AND L29
               E ACIDS/CT
L35       870594 ACIDS/CW
L36        31090 BASES/CW
L37            4 L34 AND L35-36
L38            1 L27 OR L32

=> b hcap
FILE 'HCAPLUS' ENTERED AT 15:34:53 ON 06 DEC 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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FILE COVERS 1907 - 6 Dec 2004 VOL 141 ISS 24
FILE LAST UPDATED: 5 Dec 2004 (20041205/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L38 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:269858 HCAPLUS
DN 140:287102
ED Entered STN: 02 Apr 2004
TI Method for producing 3-methylthiopropanal from acrolein and methyl mercaptan
IN [redacted]
PA Sumitomo Chemical Company, Limited, Japan
SO U.S. Pat. Appl. Publ., 4 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM C07C323-22
NCL 514041000
CC 23-14 (Aliphatic Compounds)
Section cross-reference(s): 45
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2004063650	A1	20040401	US 2003-665006	20030922
JP 2004115461	A2	20040415	JP 2002-282874	20020927
EP 1408029	A1	20040414	EP 2003-21191	20030924
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
PRAI JP 2002-282874	A	20020927		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2004063650	ICM	C07C323-22
	NCL	514041000
JP 2004115461	FTERM	4H006/AA02; 4H006/AC63; 4H006/BA32; 4H006/BA50; 4H006/BA51; 4H006/TA04; 4H006/TB56; 4H039/CA80; 4H039/CF10

OS CASREACT 140:287102
AB 3-Methylthiopropanal is produced in high yield and selectivity by supplying acrolein and Me mercaptan together or sequentially with an acidic compound (e.g., acetic acid) and a basic compound (e.g., pyridine) into a reaction system to react the acrolein with the Me mercaptan, where the basic compound is used in an amount of about 0.3 mol or less per mol of the acidic compound
ST methylthiopropanal manuf acrolein reaction methyl mercaptan
IT Thioethers
RL: SPN (Synthetic preparation); PREP (Preparation)
(3-methylthiopropanal; method for producing 3-methylthiopropanal from acrolein and Me mercaptan)
IT Addition reaction
(in a method for producing 3-methylthiopropanal from acrolein and Me mercaptan)
IT Acids, uses
Bases, uses
RL: CAT (Catalyst use); USES (Uses)
(in a method for producing 3-methylthiopropanal from acrolein and Me mercaptan)
IT Etherification
(thioetherification; in a method for producing 3-methylthiopropanal from acrolein and Me mercaptan)
IT **74-93-1**, Methyl mercaptan, reactions **107-02-8**, Acrolein,

reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(method for producing 3-methylthiopropanal from acrolein and Me mercaptan)

IT **3268-49-3P**, 3-Methylthiopropanal
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(method for producing 3-methylthiopropanal from acrolein and Me mercaptan)

IT 64-19-7, Acetic acid, uses 110-86-1, Pyridine, uses
RL: CAT (Catalyst use); USES (Uses)
(method for producing 3-methylthiopropanal from acrolein and Me mercaptan using)

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L34 ANSWER 1 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:348011 HCAPLUS
DN 140:356948
ED Entered STN: 29 Apr 2004
TI Catalytic addition reaction for the production of 3-(methylthio)propanal from mercaptomethane and acrolein
IN Rey, Patrick
PA Adisseo France S.A.S., Fr.
SO Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C07C319-18
ICS C07C323-22
CC 23-14 (Aliphatic Compounds)
Section cross-reference(s): 45, 67
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 1413573	A1	20040428	EP 2002-356211	20021024 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
WO 2004037774	A1	20040506	WO 2003-IB4557	20031014 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI EP 2002-356211	A	20021024 <--		

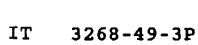
CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1413573	ICM	C07C319-18
	ICS	C07C323-22
EP 1413573	ECLA	C07C319/18 <--

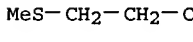
OS CASREACT 140:356948
AB A process for the production of 3-(methylthio)propanal comprises reacting mercaptomethane and acrolein in the presence of a catalyst comprising an organic base such as an N-alkylmorpholine (e.g., 4-methylmorpholine).
ST methylthiopropanal prepn catalytic addn reaction mercaptomethane acrolein
IT Cyanohydrins
RL: SPN (Synthetic preparation); PREP (Preparation)
(2-hydroxy-4-(methylthio)butanenitrile; preparation of)
IT Aldehydes, preparation
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)
(aliphatic, 3-(**methylthio**)**propanal**; catalytic addition reaction for the production of 3-(**methylthio**)**propanal** from mercaptomethane and acrolein)
IT Carboxylic acids, uses
RL: CAT (Catalyst use); USES (Uses)
(aliphatic, N-alkylmorpholines; addition reaction catalysts in the production of 3-(methylthio)propanal from mercaptomethane and acrolein)
IT Amines, uses
RL: CAT (Catalyst use); USES (Uses)

(cyclic, N-alkylmorpholines; addition reaction catalysts in the production of 3-(methylthio)propanal from mercaptomethane and acrolein)
IT Addition reaction
(for the production of 3-(methylthio)propanal from mercaptomethane and acrolein)
IT Hydrocyanation
(of 3-(methylthio)propanal with HCN to give 2-hydroxy-4-(methylthio)butanenitrile)
IT 64-18-6, Formic acid, uses 64-19-7, Acetic acid, uses 79-09-4, Propanoic acid, uses 100-74-3, 4-Ethylmorpholine 107-92-6, Butyric acid, uses 109-02-4, 1-Methylmorpholine
RL: CAT (Catalyst use); USES (Uses)
(addition reaction catalysts in the production of 3-(methylthio)propanal from mercaptomethane and acrolein)
IT **74-93-1**, Mercaptomethane, reactions **107-02-8**, Acrolein, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(catalytic addition reaction for the production of 3-(methylthio)propanal from mercaptomethane and acrolein)
IT **3268-49-3P**, 3-**(Methylthio)propanal**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)
(catalytic addition reaction for the production of 3-**(methylthio)propanal** from mercaptomethane and acrolein)
IT 17773-41-0P, 2-Hydroxy-4-(methylthio)butyronitrile
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 74-90-8, Hydrogen cyanide, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with 3-(methylthio)propanal)
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Biola, G; US 4225516 A 1980 HCAPLUS
(2) Daicel Chem; EP 0601195 A 1994 HCAPLUS
(3) Porter, H; US 5696282 A 1997 HCAPLUS
(4) Vinton, W; US 2427582 A 1947 HCAPLUS
IT **74-93-1**, Mercaptomethane, reactions **107-02-8**, Acrolein, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(catalytic addition reaction for the production of 3-(methylthio)propanal from mercaptomethane and acrolein)
RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



IT **3268-49-3P**, 3-**(Methylthio)propanal**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)
(catalytic addition reaction for the production of 3-**(methylthio)propanal** from mercaptomethane and acrolein)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



L34 ANSWER 2 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:112320 HCAPLUS
DN 134:164826
ED Entered STN: 15 Feb 2001
TI Manufacture of acrolein and acrolein derivatives from Diels-Alder reaction or Michael addition
IN Etzkorn, William George; Galley, Richard A.; Snead, Thomas E.; Brockwell, Jonathan Lester; Young, Mark Anderson; Maher, John Michael; Warren,

Barbara Knight
PA Union Carbide Chemicals and Plastics Technology Corporation, USA
SO U.S., 11 pp., Cont.-in-part of WO9736848.
CODEN: USXXAM
DT Patent
LA English
IC C07C027-10; C07C045-27; C07C045-32
NCL 568469900
CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 23

FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6187963	B1	20010213	US 1998-169798	19981009 <--
WO 9736848	A1	19971009	WO 1997-US5100	19970327 <--
W: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
RW: AU, BB, BG, BR, CA, CN, CZ, HU, IS, JP, KP, KR, LK, LR, LV, MK, MX, NO, NZ, PL, SG, SI, TR, TT, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
EP 891316	A1	19990120	EP 1997-917687	19970327 <--
EP 891316	B1	20030521		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI				

PRAI EP 1997-917687	A	19970327	<--
WO 1997-US5100	A2	19970327	<--
US 1996-14507P	P	19960401	<--
US 1996-14510P	P	19960401	<--
US 1996-14678P	P	19960401	<--

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6187963	IC	C07C027-10IC C07C045-27IC C07C045-32
	NCL	568469900

AB A process for producing an acrolein derivative comprises (i) passing a propylene feed stream comprising propylene, oxygen, and a recycle gas comprising propane, oxygen, and at least one of carbon monoxide and carbon dioxide to an acrolein reaction zone wherein the propylene feed stream is contacted with an acrolein reaction catalyst at conditions effective to promote the formation of acrolein to provide an acrolein effluent stream comprising acrolein, propane, acetaldehyde and water; (ii) passing the acrolein effluent stream to an acrolein separation zone wherein the acrolein effluent stream is partially condensed to provide a liquid acrolein product stream comprising acrolein, acetaldehyde, and water and a recycle gas stream comprising the recycle gas; (iii) passing the acrolein product stream and a co-reactant capable of undergoing a Diels-Alder reaction or Michael addition with acrolein to an acrolein derivative reaction zone and contacting the acrolein and co-reactant under conditions effective to convert the acrolein and the co-reactant into an acrolein derivative; and (iv) recycling at least a portion of the recycle gas stream to the acrolein reaction zone. The process is characterized in that the propylene feed stream comprises an amount of propane of from about 5 to 70 volume% and effective to provide a propylene-to-acrolein reaction efficiency of from about 75 to 90 mol%.

ST acrolein deriv manuf; Diels Alder reaction acrolein; Michael addn acrolein

IT Diels-Alder reaction
Dimerization
Michael reaction
(manufacture of acrolein and acrolein derivs. from Diels-Alder reaction or Michael addition)

IT 75-07-0P, Acetaldehyde, preparation
RL: BYP (Byproduct); PREP (Preparation)
(manufacture of acrolein and acrolein derivs. from Diels-Alder reaction or Michael addition)

IT 100-73-2P, 2-Formyl-3,4-dihydro-2H-pyran 108-99-6P, .beta.-Picoline 110-86-1P, Pyridine, preparation 111-30-8P, Glutaraldehyde 504-63-2P, 1,3-Propanediol 1321-16-0P, Tetrahydrobenzaldehyde **3268-49-3P**, 3-**(Methylthio)propanal** 31906-04-4P, 4-(4-Hydroxy-4-methylpentyl)-3-cyclohexene-1-carboxaldehyde 75454-86-3P 84315-07-1P
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(manufacture of acrolein and acrolein derivs. from Diels-Alder reaction or Michael addition)

IT **107-02-8P**, Acrolein, preparation 2134-29-4P, 3-Hydroxypropionaldehyde 4454-05-1P, 2-Methoxy-3,4-dihydro-2H-pyran

RL: IMF (Industrial manufacture); **RCT (Reactant)**; PREP (Preparation); **RACT (Reactant or reagent)**
(manufacture of acrolein and acrolein derivs. from Diels-Alder reaction or Michael addition)

IT 56-81-5, 1,2,3-Propanetriol, reactions 57-55-6, Propylene glycol, reactions 64-17-5, Ethanol, reactions 64-19-7, Acetic acid, reactions 65-85-0, Benzoic acid, reactions 67-56-1, Methanol, reactions 67-63-0, Isopropanol, reactions **74-93-1**, Methyl mercaptan, reactions 79-09-4, Propionic acid, reactions 106-99-0, Butadiene, reactions 107-18-6, Allyl alcohol, reactions 107-21-1, Ethylene glycol, reactions 107-25-5, Methyl vinyl ether 108-24-7, Acetic anhydride 115-07-1, Propylene, reactions 115-77-5, Pentaerythritol, reactions 123-35-3, Myrcene 543-39-5 7664-41-7, Ammonia, reactions 7732-18-5, Water, reactions 30700-92-6
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(manufacture of acrolein and acrolein derivs. from Diels-Alder reaction or Michael addition)

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD

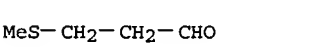
RE

(1) Angevine; US 5395940 1995 HCAPLUS
(2) Anon; EP 0117146 1984 HCAPLUS
(3) Anon; WO 9736848 1997 HCAPLUS
(4) Bunning; US 4999452 1991 HCAPLUS
(5) Cunningham; US 2626282 1953 HCAPLUS
(6) Dai; Journal of Organic Chemistry 1995, V60, P8128 HCAPLUS
(7) Davis; US 5321180 1994 HCAPLUS
(8) Etzkorn; US 5155262 1992 HCAPLUS
(9) Etzkorn; US 5183936 1993 HCAPLUS
(10) Etzkorn; US 5198578 1993 HCAPLUS
(11) Etzkorn; US 5243082 1993 HCAPLUS
(12) Golubko; Zh Prikl Khim (Leningrad) 1987, V60(3), P588 HCAPLUS
(13) Haas; US 5364987 1994 HCAPLUS
(14) Hoepp; US 5892129 1999 HCAPLUS
(15) Hsu; US 5352837 1994 HCAPLUS
(16) Hsu; US 5637766 1997 HCAPLUS
(17) Menard; US 4378314 1983 HCAPLUS
(18) Paparizos; US 4499308 1985 HCAPLUS
(19) Paparizos; US 4536585 1985 HCAPLUS
(20) Reichle; US 5354915 1994 HCAPLUS
(21) Shaw; US 5696282 1997 HCAPLUS

IT **3268-49-3P**, 3-(**Methylthio**)**propanal**
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(manufacture of acrolein and acrolein derivs. from Diels-Alder reaction or Michael addition)

RN 3268-49-3 HCAPLUS

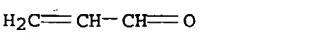
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



IT **107-02-8P**, Acrolein, preparation
RL: IMF (Industrial manufacture); **RCT (Reactant)**; PREP (Preparation); **RACT (Reactant or reagent)**
(manufacture of acrolein and acrolein derivs. from Diels-Alder reaction or Michael addition)

RN 107-02-8 HCAPLUS

CN 2-Propenal (9CI) (CA INDEX NAME)



IT **74-93-1**, Methyl mercaptan, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(manufacture of acrolein and acrolein derivs. from Diels-Alder reaction or Michael addition)

RN 74-93-1 HCAPLUS

CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

L34 ANSWER 3 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN

Search done by Noble Jarrell

AN 2000:909250 HCAPLUS
DN 134:43711
ED Entered STN: 28 Dec 2000
TI Oxidative processes for the manufacture of acrolein from propylene and oxygen
IN Etzkorn, William George; Brockwell, Jonathan Lester; Young, Mark Anderson; Maher, John Michael; Warren, Barbara Knight
PA Union Carbide Chemicals and Plastics Technology Corporation, USA
SO U.S., 10 pp., Cont.-in-part of Appl. No. PCT/US97/05100.
CODEN: USXXAM
DT Patent
LA English
IC C07C045-32
NCL 568469900
CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 23, 48
FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6166263	A	20001226	US 1998-169335	19981009 <--
WO 9736848	A1	19971009	WO 1997-US5100	19970327 <--

W: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG
RW: AU, BB, BG, BR, CA, CN, CZ, HU, IS, JP, KP, KR, LK, LR, LV, MK, MX, NO, NZ, PL, SG, SI, TR, TT, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRAI WO 1997-US5100 A2 19970327 <--
US 1996-14507P P 19960401 <--
US 1996-14510P P 19960401 <--
US 1996-14678P P 19960401 <--

CLASS

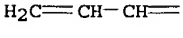
PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6166263	IC	C07C045-32
	NCL	568469900

AB Acrolein is produced in high yield and selectivity in a process comprising: (i) passing a propylene feedstream comprising propylene, oxygen and a recycle gas comprising propane, oxygen and carbon monoxide and/or carbon dioxide to an acrolein reaction zone where the propylene feedstream is contacted with an acrolein reaction catalyst to provide an acrolein effluent stream comprising acrolein, propane, acetaldehyde and water; (ii) passing the acrolein effluent stream to an acrolein separation zone where the acrolein effluent stream is partially condensed to provide a liquid acrolein product stream comprising acrolein, acetaldehyde and water and a recycle gas stream comprising the recycle gas; and (iii) recycling a portion of the recycle gas stream to the acrolein reaction zone. The propylene feedstream comprises 5-70 volume% propane and is effective to provide a propylene-to-acrolein reaction efficiency of 75-90 mol%. The presence of propane in the propylene-to-acrolein reaction can enhance the efficiency of the processes.

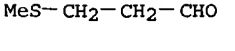
ST acrolein manuf propylene oxidn
IT Oxidation
(gas-phase; manufacture of acrolein from propylene and oxygen via)
IT Addition reaction
(of acrolein)
IT 67-56-1, Methanol, reactions 107-18-6, Allyl alcohol, reactions
107-25-5, Vinyl methyl ether 115-77-5, Pentaerythritol, reactions
7732-18-5, Water, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction of acrolein with)
IT **74-93-1**, Methanethiol, reactions 106-99-0, Butadiene, reactions
543-39-5
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reactions of acrolein with)
IT 75-07-0P, Acetaldehyde, preparation
RL: BYP (Byproduct); PREP (Preparation)
(oxidative processes for the manufacture of acrolein from propylene and oxygen)
IT **107-02-8P**, Acrolein, preparation
RL: IMF (Industrial manufacture); **RCT (Reactant)**; PREP (Preparation); **RACT (Reactant or reagent)**
(oxidative processes for the manufacture of acrolein from propylene and oxygen)
IT 74-98-6, Propane, uses
RL: MOA (Modifier or additive use); USES (Uses)

(oxidative processes for the manufacture of acrolein from propylene and oxygen)
IT 124-38-9, Carbon dioxide, uses 630-08-0, Carbon monoxide, uses
RL: NUU (Other use, unclassified); USES (Uses)
(oxidative processes for the manufacture of acrolein from propylene and oxygen)
IT 115-07-1, Propene, reactions 7782-44-7, Oxygen, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidative processes for the manufacture of acrolein from propylene and oxygen)
IT 2134-29-4P, 3-Hydroxypropionaldehyde
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of)
IT 111-30-8P, Glutaraldehyde
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of)
IT 78-19-3P 100-73-2P, 2-Formyl-3,4-dihydro-2H-pyran 504-63-2P, 1,3-Propanediol 1321-16-0P, Tetrahydrobenzaldehyde 2806-84-0P, 3-(Methoxy)propionaldehyde **3268-49-3P** 4454-05-1P, 2-Methoxy-3,4-dihydro-2H-pyran 31906-04-4P, 4-(4-Hydroxy-4-methylpentyl)-3-cyclohexene-1-carboxaldehyde 84315-07-1P
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)
RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; EP 0117146 1984 HCAPLUS
(2) Anon; WO 9736848 1997 HCAPLUS
(3) Bunning; US 4999452 1991 HCAPLUS
(4) Cunningham; US 2626282 1953 HCAPLUS
(5) Davis; US 5321180 1994 HCAPLUS
(6) Etzkorn; US 5155262 1992 HCAPLUS
(7) Etzkorn; US 5183936 1993 HCAPLUS
(8) Etzkorn; US 5198578 1993 HCAPLUS
(9) Etzkorn; US 5243082 1993 HCAPLUS
(10) Hsu; US 5352837 1994 HCAPLUS
(11) Hsu; US 5637766 1997 HCAPLUS
(12) Reichle; US 5354915 1994 HCAPLUS
(13) Shaw; US 5696282 1997 HCAPLUS
IT **74-93-1**, Methanethiol, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reactions of acrolein with)
RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

IT **107-02-8P**, Acrolein, preparation
RL: IMF (Industrial manufacture); **RCT (Reactant)**; PREP (Preparation); **RACT (Reactant or reagent)**
(oxidative processes for the manufacture of acrolein from propylene and oxygen)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



IT **3268-49-3P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



L34 ANSWER 4 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:535110 HCAPLUS
DN 133:150414

ED Entered STN: 04 Aug 2000
TI Synthesis of oligoketides
IN Ashley, Gary; Chan-Kai, Isaac Chu-Wah; Burlingame, Mark Alma
PA Kosan Biosciences, Inc., USA
SO PCT Int. Appl., 87 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07C327-00
CC 26-6 (Biomolecules and Their Synthetic Analogs)
Section cross-reference(s): 1, 7, 9, 10
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 2000044717	A2	20000803	WO 2000-US2397	20000127	<--
	WO 2000044717	A3	20010208			
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG					
	CA 2361040	AA	20000803	CA 2000-2361040	20000127	<--
	EP 1144375	A2	20011017	EP 2000-911673	20000127	<--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO					
	JP 2002535387	T2	20021022	JP 2000-595973	20000127	<--
	US 6492562	B1	20021210	US 2000-492733	20000127	<--
	US 2003096374	A1	20030522	US 2002-214653	20020807	<--
	US 2003092140	A1	20030515	US 2002-215964	20020808	<--
PRAI	US 1999-117384P	P	19990127	<--		
	US 2000-492733	A3	20000127	<--		
	WO 2000-US2397	W	20000127	<--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
WO 2000044717	ICM	C07C327-00	
US 6492562	ECLA	C07C327/30	<--
US 2003096374	ECLA	C07C327/30	<--
US 2003092140	ECLA	C07C327/30	<--

OS CASREACT 133:150414
AB Diketide and triketide thioesters were prepared by The method comprises (a) treating benzoxazolinone derivative of diketide or triketide with salt of thiol anion form N-acyl cysteamine thioester of diketide or triketide; (b) treating 2-oxazolidinone derivative of diketide or triketide with lithium salt of thiol anion in the presence of sufficient Lewis acid (trimethylammonium) form N-acyl cysteamine thioester of diketide or triketide. The resulting thioesters may be used as intermediates in the synthesis of desired polyketides by treating a polyketide synthase (PKS) enzyme complex with diketide or polyketide thioester, and may contain functional groups which ultimately reside in side chains on the resulting polyketide and thus can be used further to manipulate the polyketide so as to form derivs. The polyketides produced may also be tailored by glycosylation, hydroxylation and the like by treating polyketide with tailoring enzymes. The method can be used to synthesize oligoketide thioester on a solid support which comprises (1) reacting an N-acyl-2-imidazolidinone coupled to solid support with an aldehyde or acyl moiety under conditions whereby aldehyde or acyl moiety couples to a position .alpha. to a carbonyl in the acyl group of the 2-imidazolidinone; (2) optionally repeating step (1); (3) cleaving the resulting oligoketide from solid support by reaction with lithium salt of thiol anion in the presence of Lewis acid providing oligoketide thioester. Or alternately by (1)reacting an N-acyl benzoxazolone coupled to solid support with an aldehyde under conditions whereby aldehyde couples to a position .alpha. to carbonyl in the acyl group of the benzoxalozone; (2) optionally repeating step (1); (3) cleaving the resulting oligoketide from the solid support by reaction with salt of thiol anion, providing oligoketide thioester. Thus, propionyl oxazolidinone mixed with anhydrous dichloromethane, flushed with nitrogen, cooled to -15.degree.C in methanol/ice bath; Dibutylboron triflate(in dichloromethane) and diisopropylethylamine were added slowly and resp. to the reaction mixture while keeping temperature below 3.degree.C; After that cooled the temperature to -65.degree.C using dry ice /isopropanol bath, acrolein was added over 5

min by syringe, stirring the reaction mixture for 30 min, after that 1 M aqueous phosphate solution(pH 7.0), methanol, and 2:1 methanol-30% hydrogen peroxide were added resp. as quickly as possible while keeping the temperature below 10.degree.C, the reaction stirred for one more hour, then removed the solvent by rotary evaporation until a slurry remained, further purification giving the desired product (4S)-N-[(2S,3R)-2-methyl-3-hydroxy-4-pentenoyl]-4-benzyl-2-oxazolidinone. 15-Fluoro-6-deoxyerythronolide B was prepd by feeding (2S,3R)-5-fluoro-3-hydroxy-2-methylpentanoate N-acetyl-cysteamine thioester to S. coelicolor CH999/pJRJ2.

ST diketide triketide polyketide oligoketide synthesis; erythronolide B derive prepn

IT Saccharopolyspora erythraea
Solid phase synthesis
Streptomyces coelicolor
(synthesis of oligoketides)

IT Polyketides
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of oligoketides)

IT 194714-70-0P 215738-19-5P 215738-21-9P 215738-27-5P 215738-28-6P
215738-44-6P 215738-46-8P 215738-48-0P 215738-50-4P 287399-08-0P
287399-09-1P 287399-10-4P 287399-11-5P 287399-12-6P 287399-13-7P
287399-14-8P
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis of oligoketides)

IT 16962-53-1, Trimethylammonium 62086-04-8, Tin(II)triflate
RL: CAT (Catalyst use); USES (Uses)
(synthesis of oligoketides)

IT 59-49-4, 2(3H)-Benzoxazolone 85-41-6, Phthalimide 95-25-0, Chlorzoxazone 100-46-9, Benzylamine, reactions 100-52-7, Benzaldehyde, reactions 104-53-0, 3-Phenylpropanal **107-02-8**, Acrolein, reactions 108-94-1, Cyclohexanone, reactions 123-72-8, Butyraldehyde 123-73-9, trans-Crotonaldehyde 141-75-3, Butyryl chloride **156-57-0**, Cysteamine hydrochloride 352-91-0, 1-Bromo-3-fluoropropane 406-87-1, 4,4,4-Trifluorobutyraldehyde 407-83-0 462-43-1, 3-Fluoropropanol 462-74-8 500-22-1, Pyridine-3-carboxaldehyde 625-35-4, trans-Crotonyl chloride 630-19-3, Trimethylacetaldehyde 1450-85-7, 2-Mercaptopyrimidine 1489-69-6, Cyclopropanecarboxaldehyde 2100-17-6, 4-Penten-1-al 2975-46-4, 3-Trimethylsilylpropargyl aldehyde 7550-45-0, Titanium tetrachloride, reactions 19434-65-2, 3-Chloropropanal 58503-60-9, 3-Azidopropanal 60656-87-3, Benzyloxyacetaldehyde 65032-54-4, 3-Bromopropanal 79956-01-7, Polyketide synthase 101711-78-8 101712-01-0 111964-99-9 155957-56-5 183064-83-7 287398-55-4 287398-56-5 287398-57-6 287398-58-7 287398-59-8 287398-60-1 287398-64-5
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(synthesis of oligoketides)

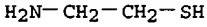
IT 123-38-6P, Propionaldehyde, preparation 1190-73-4P, N-Acetylcysteamine 1420-88-8P, N,S-Diacetylcysteamine 2436-29-5P **3268-49-3P**, 3-(**Methylthio**)**propionaldehyde** 33388-19-1P 77063-66-2P, 3-Fluoropropanal 89436-27-1P 89436-29-3P 101711-79-9P 115444-28-5P 124439-37-8P 139426-88-3P 197640-48-5P 209671-25-0P 220081-70-9P 220081-71-0P 287398-61-2P 287398-62-3P 287398-63-4P 287398-65-6P 287398-66-7P 287398-68-9P 287398-69-0P 287398-70-3P 287398-71-4P 287398-72-5P 287398-73-6P 287398-74-7P 287398-75-8P 287398-76-9P 287398-77-0P 287398-78-1P 287398-79-2P 287398-81-6P 287398-82-7P 287398-83-8P 287398-84-9P 287398-85-0P 287398-86-1P 287398-87-2P 287398-88-3P 287398-89-4P 287398-90-7P 287398-91-8P 287398-92-9P 287398-93-0P 287398-94-1P 287398-95-2P 287398-96-3P 287398-97-4P 287398-98-5P 287398-99-6P 287399-00-2P 287399-01-3P 287399-02-4P 287399-03-5P 287399-04-6P 287399-05-7P 287399-06-8P 287399-07-9P
RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(synthesis of oligoketides)

IT 287399-15-9P 287399-16-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of oligoketides)

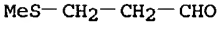
IT **107-02-8**, Acrolein, reactions **156-57-0**, Cysteamine hydrochloride
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(synthesis of oligoketides)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

RN 156-57-0 HCAPLUS
CN Ethanethiol, 2-amino-, hydrochloride (8CI, 9CI) (CA INDEX NAME)



IT **3268-49-3P, 3-(Methylthio)propionaldehyde**
RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(synthesis of oligoketides)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



L34 ANSWER 5 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:289080 HCAPLUS
DN 132:309995
ED Entered STN: 04 May 2000
TI Processes for the manufacture of 3-(methylthio)propanal
IN Brockwell, Jonathan L.; Young, Mark A.; Etzkorn, William G.; Warren, Barbara K.; Maher, John M.
PA Union Carbide Chemicals & Plastics Technology Corporation, USA
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C07C319-02
NCL 568041000
CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 23, 48
FAN.CNT 3

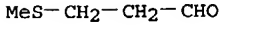
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6057481	A	20000502	US 1998-155750	19981001 <--
	WO 9736848	A1	19971009	WO 1997-US5100	19970327 <--
	W: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	RW: AU, BB, BG, BR, CA, CN, CZ, HU, IS, JP, KP, KR, LK, LR, LV, MK, MX, NO, NZ, PL, SG, SI, TR, TT, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	AU 9725947	A1	19971022	AU 1997-25947	19970327 <--
	JP 2002503206	T2	20020129	JP 1997-535453	19970327 <--
	JP 3490459	B2	20040126		
	AT 240924	E	20030615	AT 1997-917687	19970327 <--
PRAI	US 1996-14507P	P	19960401 <--		
	US 1996-14510P	P	19960401 <--		
	US 1996-14678P	P	19960401 <--		
	WO 1997-US5100	W	19970327 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6057481	ICM	C07C319-02
	NCL	568041000

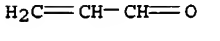
AB A process for the conversion of propylene to 3-(methylthio)propanal (I) by converting propylene to acrolein and converting the acrolein with Me mercaptan to I is described. The processes utilize oxygen and recycle propane to the acrolein reactor. The process feeds can comprise, propane, propylene or their mixts. The presence of propane in the propylene-to-acrolein reaction can enhance the efficiency of the processes.
ST methylthiopropanal manuf; propene conversion manuf methylthiopropanal
IT Addition reaction catalysts

(for the reaction of Me mercaptan with acrolein in the manufacture of 3-(methylthio)propanal)
IT Oxidation
(gas-phase; of propene tp acrolein)
IT Addition reaction
(of Me mercaptan and acrolein in the manufacture of 3-(methylthio)propanal)
IT Dehydrogenation
(of propane to propene)
IT 75-07-0P, Acetaldehyde, preparation
RL: **BYP (Byproduct); PREP (Preparation)**
(processes for the manufacture of 3-**(methylthio)propanal**
)
IT 124-38-9P, Carbon dioxide, preparation 630-08-0P, Carbon monoxide, preparation
RL: **BYP (Byproduct)**; NUU (Other use, unclassified); **PREP (Preparation)**; USES (Uses)
(processes for the manufacture of 3-**(methylthio)propanal**
)
IT **3268-49-3P**, 3-**(Methylthio)propanal**
RL: **IMF (Industrial manufacture); PREP (Preparation)**
(processes for the manufacture of 3-**(methylthio)propanal**
)
IT **107-02-8P**, Acrolein, preparation 115-07-1P, Propene, preparation
RL: **IMF (Industrial manufacture); RCT (Reactant)**;
PREP (Preparation); RACT (Reactant or reagent)
(processes for the manufacture of 3-**(methylthio)propanal**
)
IT **74-93-1**, Methyl mercaptan, reactions 74-98-6, Propane, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(processes for the manufacture of 3-(methylthio)propanal)
IT 1305-78-8, Calcium oxide, uses
RL: CAT (Catalyst use); USES (Uses)
(processes for the manufacture of 3-(methylthio)propanal using)
IT 7782-44-7, Oxygen, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(processes for the manufacture of 3-(methylthio)propanal using)
IT 1304-76-3, Bismuth oxide, uses 1332-37-2, Iron oxide, uses 11098-99-0, Molybdenum oxide 265114-52-1, ACF 2
RL: CAT (Catalyst use); USES (Uses)
(processes for the manufacture of 3-(methylthio)propanal using a catalyst containing)
RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; EP 0117146 1984 HCAPLUS
(2) Anon; EP 0257565 1988 HCAPLUS
(3) Anon; J A Chem Soc 1948, V70, P1450
(4) Bernard; US 2676190 1954 HCAPLUS
(5) Biola; US 4225516 1980 HCAPLUS
(6) Blackburn; US 5663409 1997 HCAPLUS
(7) Bunning; US 4999452 1991 HCAPLUS
(8) Cunningham; US 2626282 1953 HCAPLUS
(9) Davis; US 5321180 1994 HCAPLUS
(10) Etzkorn; US 5155262 1992 HCAPLUS
(11) Etzkorn; US 5183936 1993 HCAPLUS
(12) Etzkorn; US 5198578 1993 HCAPLUS
(13) Etzkorn; US 5243082 1993 HCAPLUS
(14) Hefner; US 5705684 1998 HCAPLUS
(15) Hsu; US 5352837 1994 HCAPLUS
(16) Hsu; US 5637766 1997 HCAPLUS
(17) Hsu; US 5744647 1998 HCAPLUS
(18) Koberstein; US 4048232 1977 HCAPLUS
(19) Komorn; US 4319047 1982 HCAPLUS
(20) Reichle; US 5354915 1994 HCAPLUS
(21) Shaw; US 5696282 1997 HCAPLUS
(22) Shima; US 3529940 1970
(23) Yoshitsugu; US 3438868 1969 HCAPLUS
IT **3268-49-3P**, 3-**(Methylthio)propanal**
RL: **IMF (Industrial manufacture); PREP (Preparation)**
(processes for the manufacture of 3-**(methylthio)propanal**
)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

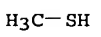


Search done by Noble Jarrell

IT **107-02-8P**, Acrolein, preparation
RL: **IMF (Industrial manufacture)**; **RCT (Reactant)**;
PREP (Preparation); **RACT (Reactant or reagent)**
(processes for the manufacture of 3-(methylthio)propanal
)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



IT **74-93-1**, Methyl mercaptan, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(processes for the manufacture of 3-(methylthio)propanal)
RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)



L34 ANSWER 6 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:450926 HCAPLUS
DN 131:89346
ED Entered STN: 23 Jul 1999
TI Continuous process for the preparation of 3-(methylthio)propanal from acrolein and methyl mercaptan
IN Hsu, Yung C.; Ruest, Dennis A.
PA Novus International, Inc., USA
SO U.S., 26 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C07C319-00
NCL 568041000
CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 23, 48
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5925794	A	19990720	US 1996-668572	19960620 <--
	US 5352837	A	19941004	US 1993-73763	19930608 <--
	US 5637766	A	19970610	US 1995-557699	19951113 <--
	CN 1188470	A	19980722	CN 1996-194943	19960621 <--
	CN 1120834	B	20030910		
	US 6031138	A	20000229	US 1998-102025	19980622 <--
	US 6320076	B1	20011120	US 1999-470407	19991222 <--
PRAI	US 1993-73763	A2	19930608 <--		
	US 1994-273216	B1	19940711 <--		
	US 1995-421P	P	19950622 <--		
	US 1995-557699	A2	19951113 <--		
	US 1996-667099	B1	19960620 <--		
	US 1996-668572	B1	19960620 <--		
	US 1998-102025	A3	19980622 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5925794	ICM	C07C319-00
	NCL	568041000
US 6031138	ECLA	C07C319/18 <--
US 6320076	ECLA	C07C045/35+47/22; C07C045/78A; C07C045/81; C07C319/18 <--

AB 3-(Methylthio)propanal (I) is prepared in a continuous process in which a liquid reaction medium (containing I, Me mercaptan, and an addition reaction catalyst) is contacted with a gaseous acrolein feed stream (containing acrolein vapor and noncondensable gas) in a gas-liquid contact zone. Acrolein is transferred from the acrolein feed stream to the reaction medium and reacted with Me mercaptan in that medium to produce a liquid reaction product containing I. The noncondensable gas is separated from the liquid reaction product, the reaction product is divided into a product fraction and a circulating fraction, and the circulating fraction is recycled to the gas-liquid contact zone. Process flow diagrams are presented.
ST methylthiopropanal continuous manuf; acrolein addn reaction methyl

mercaptan prepn methylthiopropanal
IT Addition reaction
(continuous process for the preparation of 3-(methylthio)propanal from acrolein and Me mercaptan via)
IT Oxidation
(of propylene to acrolein)
IT Reactors
(plug-flow; continuous process for the preparation of 3-(methylthio)propanal from acrolein and Me mercaptan using)
IT 583-91-5P, 2-Hydroxy-4-(methylthio)butyric acid
RL: **IMF (Industrial manufacture); PREP (Preparation)**
(continuous process for the preparation of 3-(**methylthio**)**propanal** from acrolein and Me mercaptan)
IT **107-02-8P**, 2-Propenal, preparation **3268-49-3P**, 3-(**Methylthio**)**propanal** 59121-24-3P, 4-(Methylthio)butyronitrile
RL: **IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)**
(continuous process for the preparation of 3-(**methylthio**)**propanal** from acrolein and Me mercaptan)
IT 74-90-8, Hydrogen cyanide, reactions **74-93-1**, Methyl mercaptan, reactions 115-07-1, 1-Propene, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(continuous process for the preparation of 3-(methylthio)propanal from acrolein and Me mercaptan)
RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; CA 797873 1968
(2) Anon; GB 1150252 1969
(3) Anon; GB 1162054 1969
(4) Anon; GB 1166961 1969
(5) Anon; GB 1173174 1969
(6) Anon; CA 820968 1969
(7) Anon; GB 1177470 1970 HCAPLUS
(8) Anon; FR 2314917 1970 HCAPLUS
(9) Anon; NL 6809647 1970 HCAPLUS
(10) Anon; JP 4856144 1973
(11) Anon; RO 85095 1984 HCAPLUS
(12) Anon; WO 96/01810 1996 HCAPLUS
(13) Anon; PCT/US93/08552 International Search Report completed Nov 17, 1993
(14) Anon; PCT/US95/08532 International Search Report completed Sep 19, 1995
(15) Bernard; US 2676190 1954 HCAPLUS
(16) Biola; US 4225516 1980 HCAPLUS
(17) Cunningham; US 2626282 1953 HCAPLUS
(18) Etzkorn; US 5155262 1992 HCAPLUS
(19) Etzkorn; US 5183936 1993 HCAPLUS
(20) Etzkorn; US 5198578 1993 HCAPLUS
(21) Gresham; US 2485236 1949 HCAPLUS
(22) Gresham; US 2542768 1951 HCAPLUS
(23) Gresham; US 2564105 1951 HCAPLUS
(24) Hickinbottom, W; Reactions of Organic Compounds 1957, P381
(25) Hsu; US 5352837 1994 HCAPLUS
(26) Hsu; US 5637766 1997 HCAPLUS
(27) Hunt; US 2776996 1957 HCAPLUS
(28) Koberstein; US 4048232 1977 HCAPLUS
(29) Komorn; US 4319047 1982 HCAPLUS
(30) Livak; US 2557913 1951 HCAPLUS
(31) Mannsfeld; US 3878057 1975 HCAPLUS
(32) Meyer; US 3574766 1971
(33) Ouchi; US 3833651 1974 HCAPLUS
(34) Pierson; US 2523633 1950 HCAPLUS
(35) Pierson; US 2584496 1952 HCAPLUS
(36) Pierson; Synthesis of DL-Methionine 1948, V70, P1450 HCAPLUS
(37) Sandler; US 5015776 1991 HCAPLUS
(38) Sawaki; US 3438868 1969 HCAPLUS
(39) Shima; US 3529940 1970
(40) Vander Weele; US 2521677 1950 HCAPLUS
IT **107-02-8P**, 2-Propenal, preparation **3268-49-3P**, 3-(**Methylthio**)**propanal**
RL: **IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)**
(continuous process for the preparation of 3-(**methylthio**)**propanal** from acrolein and Me mercaptan)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

$H_2C{=}CH{-}CH{=}O$

RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

$MeS{-}CH_2{-}CH_2{-}CHO$

IT **74-93-1**, Methyl mercaptan, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(continuous process for the preparation of 3-(methylthio)propanal from acrolein and Me mercaptan)
RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

$H_3C{-}SH$

L34 ANSWER 7 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:31172 HCAPLUS
DN 128:114715
ED Entered STN: 19 Jan 1998
TI Processes for the preparation of 3-(methylthio)propanal and 2-hydroxy-4-(methylthio)butanenitrile
IN Blackburn, Thomas F.; Pellegrin, Paul F.
PA Novus International, Inc., USA
SO U.S., 9 pp., Cont.-in-part of U.S. 5,663,409.
CODEN: USXXAM
DT Patent
LA English
IC ICM C07C323-22
ICS C07C253-00; C07C253-30; C07C319-20
NCL 558351000
CC 23-9 (Aliphatic Compounds)
Section cross-reference(s): 45
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5705675	A	19980106	US 1995-581249	19951229 <--
	US 5663409	A	19970902	US 1995-476356	19950607 <--
	ZA 9604335	A	19960820	ZA 1996-4335	19960528 <--
	WO 9640631	A1	19961219	WO 1996-US9060	19960604 <--
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML				
	AU 9659873	A1	19961230	AU 1996-59873	19960604 <--
	AU 714151	B2	19991223		
	EP 830341	A1	19980325	EP 1996-917222	19960604 <--
	EP 830341	B1	20010905		
	R: BE, DE, DK, ES, FR, GB, IT, LU, NL, MC, PT, IE				
	CN 1189818	A	19980805	CN 1996-195190	19960604 <--
	CN 1092184	B	20021009		
	JP 11511119	T2	19990928	JP 1997-501471	19960604 <--
	RU 2173681	C2	20010920	RU 1998-100220	19960604 <--
	ES 2160819	T3	20011116	ES 1996-917222	19960604 <--
	PT 830341	T	20011228	PT 1996-917222	19960604 <--
PRAI	US 1995-476356	A2	19950607 <--		
	US 1995-581249	A	19951229 <--		
	WO 1996-US9060	W	19960604 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5705675	ICM	C07C323-22
	ICS	C07C253-00; C07C253-30; C07C319-20
	NCL	558351000
WO 9640631	ECLA	C07C319/18; C07C319/20 <--

OS CASREACT 128:114715; MARPAT 128:114715
AB A catalytic processes for the preparation of 3-(methylthio)propanal and

2-hydroxy-4-(methylthio)butanenitrile using novel addition catalysts is described. The novel addition catalysts include: triisopropanolamine, nicotinamide, imidazole, benzimidazole, 2-fluoropyridine, poly-4-vinylpyridine, 4-dimethylaminopyridine, picoline, pyrazine, trialkylamines, and tertiary amines. E.g., reaction of MeSH and acrolein in presence of poly-4-vinylpyridine gave 89.0% 3-(methylthio)propanal. The aldehyde product, containing the poly-4-vinylpyridine catalyst, was converted to the nitrile in the same reactor by treatment with HCN. The yield of nitrile was 72.9%.

ST methylthiopropanal prepn cyanidation; propanal methylthio prepn cyanidation; hydroxymethylthiobutanenitrile prepn; butanenitrile hydroxymethylthio prepn; addn reaction catalyst

IT Addition reaction catalysts
(for preparation of (methylthio)propanal and hydroxy(methylthio)butanenitril e)

IT 51-17-2, Benzimidazole 56-12-2, 4-Aminobutyric acid, uses 98-92-0, Nicotinamide 102-69-2, Tripropylamine 102-82-9, Tributylamine 102-87-4, Tridodecylamine 104-15-4, p-Toluenesulfonic acid, uses 107-45-9, tert-Octylamine 108-89-4, 4-Picoline 110-86-1, Pyridine, uses 122-20-3, Triisopropanolamine 139-33-3, Disodium EDTA 141-53-7, Sodium formate 150-59-4 288-32-4, Imidazole, uses 290-37-9, Pyrazine 372-47-4, 3-Fluoropyridine 372-48-5, 2-Fluoropyridine 552-82-9, N-Methyldiphenylamine 557-34-6, Zinc acetate 603-34-9, Triphenylamine 620-40-6, Tribenzylamine 621-77-2, Tripentylamine 1116-76-3, Trioctylamine 1122-58-3, 4-Dimethylaminopyridine 3486-35-9, Zinc carbonate 5137-55-3, Trioctylmethylammonium chloride 7647-10-1, Palladium chloride 12680-49-8, Sodium molybdate 13977-33-8, N-Methyldiphenethylamine 25232-41-1, Poly-4-vinylpyridine 33100-27-5, 15-Crown-5 198821-93-1
RL: CAT (Catalyst use); USES (Uses)
(preparation of (methylthio)propanal and hydroxy(methylthio)butanenitrile)

IT **3268-49-3P**, 3-**(Methylthio)propanal**
RL: **IMF (Industrial manufacture)**; RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(preparation of **(methylthio)propanal** and hydroxy(methylthio)butanenitrile)

IT 17773-41-0P, 2-Hydroxy-4-(methylthio)butanenitrile
RL: **IMF (Industrial manufacture)**; **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of **(methylthio)propanal** and hydroxy(methylthio)butanenitrile)

IT **74-93-1**, Methyl mercaptan, reactions **107-02-8**, Acrolein, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(preparation of (methylthio)propanal and hydroxy(methylthio)butanenitrile)

RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD

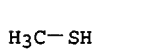
RE

(1) Anon; FR 976673 1951 HCAPLUS
(2) Anon; GB 867966 1961 HCAPLUS
(3) Anon; GB 986198 1965
(4) Anon; CA 797873 1968
(5) Anon; GB 1150252 1969
(6) Anon; GB 1162054 1969
(7) Anon; GB 1166961 1969
(8) Anon; GB 1173174 1969
(9) Anon; CA 820968 1969
(10) Anon; GB 1177470 1970 HCAPLUS
(11) Anon; JP 74024046 1974 HCAPLUS
(12) Anon; JP 74024890 1974 HCAPLUS
(13) Anon; JP 74024890 1974
(14) Anon; JP 50-4018 1975
(15) Anon; GB 1510256 1978
(16) Bernard; US 2676190 1954 HCAPLUS
(17) Biola; US 4225516 1980 HCAPLUS
(18) Blake; US 2745745 1956 HCAPLUS
(19) Blake; US 2938053 1960 HCAPLUS
(20) Brzozowski, Z; Roczniki Chem 1959, V33, P217 HCAPLUS
(21) Brzozowski, Z; Roczniki Chem 1959, V33, P217 HCAPLUS
(22) Cunningham; US 2626282 1953 HCAPLUS
(23) Darcas; US 3699148 1972 HCAPLUS
(24) Gresham; US 2542768 1951 HCAPLUS
(25) Hsu; US 5352837 1994 HCAPLUS
(26) Hunt; US 2776996 1957 HCAPLUS
(27) Koberstein; US 4048232 1977 HCAPLUS
(28) Komora; US 4319047 1982 HCAPLUS

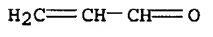
(29) Livak; US 2557913 1951 HCAPLUS
(30) Mannsfeld; US 3878057 1975 HCAPLUS
(31) Meyer; US 3574766 1971
(32) Ouchi; US 3833651 1974 HCAPLUS
(33) Pierson; US 2523633 1950 HCAPLUS
(34) Pierson; US 2584496 1952 HCAPLUS
(35) Sawaki; US 3438868 1969 HCAPLUS
(36) Shima; US 3529940 1970
(37) Vander Weele; US 2521677 1950 HCAPLUS

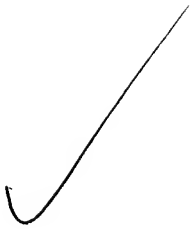
IT **3268-49-3P**, 3-(**Methylthio**)**propanal**
RL: **IMF (Industrial manufacture)**; RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(preparation of (**methylthio**)**propanal** and hydroxy(methylthio)butanenitrile)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

IT **74-93-1**, Methyl mercaptan, reactions **107-02-8**, Acrolein, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(preparation of (methylthio)propanal and hydroxy(methylthio)butanenitrile)
RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)



RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)





L34 ANSWER 8 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:165266 HCAPLUS
DN 126:157183
ED Entered STN: 12 Mar 1997
TI Process for the continuous preparation of 3-(methylthio)propanal from acrolein and methyl mercaptan
IN Hsu, Yung C.
PA Novus International, Inc., USA
SO PCT Int. Appl., 85 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07C319-18
ICS C07C323-22
CC 23-14 (Aliphatic Compounds)
Section cross-reference(s): 45, 48
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9700858	A1	19970109	WO 1996-US10920	19960621 <--
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML				
	US 5905171	A	19990518	US 1996-667099	19960620 <--
	AU 9663959	A1	19970122	AU 1996-63959	19960621 <--
	AU 726921	B2	20001123		
	EP 842149	A1	19980520	EP 1996-923452	19960621 <--
	EP 842149	B1	20030205		
	R: BE, DE, DK, ES, FR, GB, IT, LU, NL, MC, PT, IE				
	CN 1188470	A	19980722	CN 1996-194943	19960621 <--
	CN 1120834	B	20030910		
	JP 11508266	T2	19990721	JP 1997-504005	19960621 <--

	RU 2172734	C2	20010827	RU 1998-100590	19960621 <--
	ES 2192607	T3	20031016	ES 1996-923452	19960621 <--
PRAI	US 1995-421P	P	19950622 <--		
	US 1996-667099	A	19960620 <--		
	WO 1996-US10920	W	19960621 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9700858	ICM	C07C319-18
	ICS	C07C323-22
WO 9700858	ECLA	C07C319/18 <--
US 5905171	ECLA	C07C319/18 <--

OS CASREACT 126:157183

AB In the title process, a liquid reaction, medium containing 3-(methylthio)propanal and a catalyst for the reaction between Me mercaptan and acrolein, is contacted with a gaseous acrolein feed stream in a gas-liquid contact zone. The gaseous acrolein feed stream comprises acrolein vapor and noncondensable gas and the acrolein is transferred from the acrolein feed stream to the reaction medium. Me mercaptan, introduced into the reaction medium, reacts with the acrolein in that medium, producing a liquid reaction product containing 3-(methylthio)propanal. The noncondensable gas is then separated from the liquid reaction product the reaction product is divided into a produce fraction and a circulating fraction, and the circulating fraction is recycled to the gas/liquid contact zone. Process flow diagrams are presented.

ST methylthiopropanal continuous prepn; acrolein reaction methylthiol prepn methylthiopropanal

IT Addition reaction
(of acrolein and Me mercaptan in the continuous preparation of 3-(methylthio)propanal)

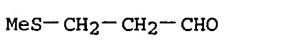
IT **3268-49-3P**, 3-(**Methylthio**)**propanal**
RL: **IMF (Industrial manufacture)**; **SPN (Synthetic preparation)**; **PREP (Preparation)**
(process for the continuous preparation of 3-(**methylthio**)**propanal** from acrolein and Me mercaptan)

IT **74-93-1**, Methanethiol, reactions **107-02-8**, Acrolein, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(process for the continuous preparation of 3-(methylthio)propanal from acrolein and Me mercaptan)

IT **3268-49-3P**, 3-(**Methylthio**)**propanal**
RL: **IMF (Industrial manufacture)**; **SPN (Synthetic preparation)**; **PREP (Preparation)**
(process for the continuous preparation of 3-(**methylthio**)**propanal** from acrolein and Me mercaptan)

RN 3268-49-3 HCAPLUS

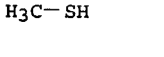
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



IT **74-93-1**, Methanethiol, reactions **107-02-8**, Acrolein, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(process for the continuous preparation of 3-(methylthio)propanal from acrolein and Me mercaptan)

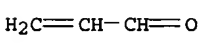
RN 74-93-1 HCAPLUS

CN Methanethiol (8CI, 9CI) (CA INDEX NAME)



RN 107-02-8 HCAPLUS

CN 2-Propenal (9CI) (CA INDEX NAME)



L34 ANSWER 9 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:111227 HCAPLUS

DN 126:117741

ED Entered STN: 17 Feb 1997

TI Processes and catalysts for the preparation of 3-(methylthio)propanal and 2-hydroxy-4-(methylthio)butanenitrile
IN Blackburn, Thomas F.; Pellegrin, Paul F.; Kranz, Allen H.
PA Novus International, Inc., USA
SO PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07C319-18
ICS C07C319-20; C07C323-22; C07C323-60
CC 23-19 (Aliphatic Compounds)
Section cross-reference(s): 45, 67
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9640631	A1	19961219	WO 1996-US9060	19960604	<--
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI					
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML					
	US 5663409	A	19970902	US 1995-476356	19950607	<--
	US 5705675	A	19980106	US 1995-581249	19951229	<--
	AU 9659873	A1	19961230	AU 1996-59873	19960604	<--
	AU 714151	B2	19991223			
	EP 830341	A1	19980325	EP 1996-917222	19960604	<--
	EP 830341	B1	20010905			
	R: BE, DE, DK, ES, FR, GB, IT, LU, NL, MC, PT, IE					
	JP 11511119	T2	19990928	JP 1997-501471	19960604	<--
	RU 2173681	C2	20010920	RU 1998-100220	19960604	<--
PRAI	US 1995-476356	A	19950607	<--		
	US 1995-581249	A	19951229	<--		
	WO 1996-US9060	W	19960604	<--		

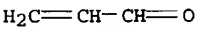
CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9640631	ICM	C07C319-18
	ICS	C07C319-20; C07C323-22; C07C323-60
WO 9640631	ECLA	C07C319/18; C07C319/20 <--

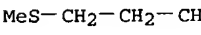
OS MARPAT 126:117741
AB 3-(Methylthio)propanal (I) is prepared by the addition reaction of MeSH with acrolein, 2-hydroxy-4-(methylthio)butanenitrile is prepared by the addition reaction of I with HCN, and both reactions are conducted in the presence of an addition reaction catalysts comprising .gtoreq.1 organic base(s) (e.g., triisopropanolamine, nicotinamide, imidazole, benzimidazole, 2-fluoropyridine, poly-4-vinylpyridine, 4-dimethylaminopyridine, picoline, pyrazine, trialkylamines, etc.).
ST hydroxymethylthiobutanenitrile prepn; methylthiopropanal prepn; addn reaction catalyst prepn hydroxymethylthiobutanenitrile
IT Addition reaction catalysts
(amines for the preparation of 3-(methylthio)propanal and 2-hydroxy-4-(methylthio)butanenitrile)
IT Amines, uses
RL: CAT (Catalyst use); USES (Uses)
(catalysts for the preparation of 3-(methylthio)propanal and 2-hydroxy-4-(methylthio)butanenitrile)
IT 51-17-2, Benzimidazole 98-92-0, Nicotinamide 102-69-2, Tripropylamine 122-20-3, Triisopropanolamine 150-59-4 288-32-4, Imidazole, uses 290-37-9, Pyrazine 372-48-5, 2-Fluoropyridine 1122-58-3, 4-Dimethylaminopyridine 1333-41-1, Picoline 13977-33-8, N-Methyldiphenethylamine 25232-41-1, 4-Vinylpyridine homopolymer
RL: CAT (Catalyst use); USES (Uses)
(processes and catalysts for the preparation of 3-(methylthio)propanal and 2-hydroxy-4-(methylthio)butanenitrile)
IT 64-19-7, Acetic acid, reactions 74-90-8, Hydrogen cyanide, reactions **74-93-1**, Methanethiol, reactions **107-02-8**, Acrolein, reactions 7664-38-2, Phosphoric acid, reactions 7664-93-9, Sulfuric acid, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(processes and catalysts for the preparation of 3-(methylthio)propanal and 2-hydroxy-4-(methylthio)butanenitrile)
IT **3268-49-3P**, 3-**(Methylthio)propanal**
RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(processes and catalysts for the preparation of 3-**(methylthio)**

propanal and 2-hydroxy-4-(methylthio)butanenitrile)
IT 17773-41-0P, 2-Hydroxy-4-(methylthio)butanenitrile
RL: SPN (Synthetic preparation); PREP (Preparation)
(processes and catalysts for the preparation of 3-(methylthio)
propanal and 2-hydroxy-4-(methylthio)butanenitrile)
IT 74-93-1, Methanethiol, reactions 107-02-8, Acrolein, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(processes and catalysts for the preparation of 3-(methylthio)propanal and 2-hydroxy-4-(methylthio)butanenitrile)
RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



IT 3268-49-3P, 3-(Methylthio)propanal
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(processes and catalysts for the preparation of 3-(methylthio)
propanal and 2-hydroxy-4-(methylthio)butanenitrile)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



L34 ANSWER 10 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1996:537082 HCAPLUS
DN 125:167345
ED Entered STN: 07 Sep 1996
TI Preparation of 2-hydroxy-4-(methylmercapto)butyric acid from acrolein and methyl mercaptan without using sulfuric acid
IN Matsuoka, Kazuyuki
PA Daicel Chem, Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C07C323-52
ICS C07C319-18; C07C319-20
CC 23-17 (Aliphatic Compounds)
Section cross-reference(s): 17
FAN.CNT 1

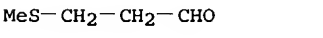
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08157447	A2	19960618	JP 1993-159132	19930629 <--
	JP 3169103	B2	20010521		
PRAI	JP 1993-159132		19930629 <--		

CLASS

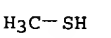
PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 08157447	ICM	C07C323-52
	ICS	C07C319-18; C07C319-20

AB MeS(CH2)2CH(OH)CO2H (I), which is used as a feed additive, is prepared from CH2:CHCHO and MeSH, via MeS(CH2)2CHO, MeS(CH2)2CH(OH)CN (II), MeS(CH2)2CH(OH)CONH2 (III), and esters of MeS(CH2)2CH(OH)CO2H. Hydration of II in aqueous Me2CO in the presence of MnO2 at 60.degree. for 6 h gave 89.0% III, which was autoclaved with MeOH and Pb nitrate at 170.degree. and 20 kg/cm2 for 5 h with removing NH3 to afford MeS(CH2)2CH(OH)CO2Me at 83% conversion and 85% selectivity. Hydrolysis of the ester with Amberlyst 15 in H2O at 95.degree. for 5 h gave I at 98.8% conversion and 97.1% selectivity.
ST hydroxymethylmercaptobutyrate prepn feed additive; acrolein addn methyl mercaptan; hydroxymethylmercaptobutyronitrile hydration
IT Feed

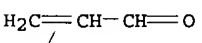
(additive for; preparation of hydroxy(methylmercapto)butyric acid from acrolein and Me mercaptan without using sulfuric acid)
IT Hydration, chemical
(hydration of hydroxy(methylmercapto)butyronitrile without using sulfuric acid in preparation of hydroxy(methylmercapto)butyric acid)
IT 74-90-8P, Prussic acid, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(in preparation of hydroxy(methylmercapto)butyric acid from acrolein and Me mercaptan without using sulfuric acid)
IT 583-91-5P, 2-Hydroxy-4-(methylmercapto)butyric acid
RL: IMF (Industrial manufacture); PREP (Preparation)
(preparation of hydroxy(methylmercapto)butyric acid from acrolein and Me mercaptan without using sulfuric acid)
IT **3268-49-3P**, 3-**(Methylmercapto)propionaldehyde**
17773-41-0P, 2-Hydroxy-4-(methylthio)butyronitrile 49540-21-8P, 2-Hydroxy-4-(methylthio)butyramide 52703-96-5P
RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(preparation of hydroxy(methylmercapto)butyric acid from acrolein and Me mercaptan without using sulfuric acid)
IT **74-93-1**, Methyl mercaptan, reactions **107-02-8**, 2-Propenal, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(preparation of hydroxy(methylmercapto)butyric acid from acrolein and Me mercaptan without using sulfuric acid)
IT 7664-41-7P, Ammonia, preparation
RL: BYP (Byproduct); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(recycling of; in preparation of hydroxy(methylmercapto)butyric acid from acrolein and Me mercaptan without using sulfuric acid)
IT **3268-49-3P**, 3-**(Methylmercapto)propionaldehyde**
RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(preparation of hydroxy(methylmercapto)butyric acid from acrolein and Me mercaptan without using sulfuric acid)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



IT **74-93-1**, Methyl mercaptan, reactions **107-02-8**, 2-Propenal, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(preparation of hydroxy(methylmercapto)butyric acid from acrolein and Me mercaptan without using sulfuric acid)
RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)



RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



L34 ANSWER 11 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1996:252233 HCAPLUS
DN 124:288769
ED Entered STN: 30 Apr 1996
TI Preparation of 3-(methylthio)propanal
IN Hsu, Yung C.; Ruest, Dennis A.
PA Novus International, Inc., USA
SO PCT Int. Appl., 70 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07C323-50
ICS C07C323-51

CC 23-14 (Aliphatic Compounds)
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9601810	A1	19960125	WO 1995-US8532	19950706 <--
	W: AM, AT, AU, BB, BG, BR, BY, CA, CN, CZ, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MN, MW, MX, NO, NZ, PL, RO, RU, SD, SG, SI, SK, TJ, TM, TT, UA, UG, UZ, VN				
	RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9530939	A1	19960209	AU 1995-30939	19950706 <--
	AU 699841	B2	19981217		
	EP 770062	A1	19970502	EP 1995-926631	19950706 <--
	R: BE, DE, DK, ES, FR, GB, IE, IT, LU, MC, NL, PT				
	CN 1152913	A	19970625	CN 1995-194068	19950706 <--
	JP 10504812	T2	19980512	JP 1996-504405	19950706 <--
	RU 2149159	C1	20000520	RU 1997-102147	19950706 <--
	CN 1222507	A	19990714	CN 1998-115072	19980624 <--
PRAI	US 1994-273216	A	19940711 <--		
	WO 1995-US8532	W	19950706 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9601810	ICM	C07C323-50
	ICS	C07C323-51
WO 9601810	ECLA	C07C045/35+47/22; C07C319/18 <--

AB The title process comprises condensation of CH2:CHCHO from a feed stream in a gas/liquid contact zone containing MeSCH2CH2CHO, MeSH, and catalyst, separation of non-condensable material from the feed stream, and withdrawal of liquid which is divided into a product stream and a stream which is returned to the gas/liquid contact zone.

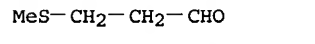
ST methylthiopropanal; acrolein addn methanethiol

IT **3268-49-3P**, 3-(**Methylthio**)**propanal**
RL: **IMF (Industrial manufacture)**; **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of 3-(**methylthio**)**propanal**)

IT **74-93-1**, Methanethiol, reactions **107-02-8**, Acrolein, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(preparation of 3-(methylthio)propanal)

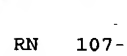
IT **3268-49-3P**, 3-(**Methylthio**)**propanal**
RL: **IMF (Industrial manufacture)**; **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of 3-(**methylthio**)**propanal**)

RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

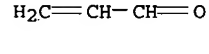


IT **74-93-1**, Methanethiol, reactions **107-02-8**, Acrolein, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(preparation of 3-(methylthio)propanal)

RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)



RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



L34 ANSWER 12 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:183935 HCAPLUS
DN 122:9491
ED Entered STN: 12 Nov 1994
TI Continuous process for preparation of 3-(methylthio)propanal from a

gaseous acrolein feed stream
IN Hsu, Yung C.; Ruest, Dennis A.
PA Novus International, Inc., USA
SO U.S., 16 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C07C323-50
ICS C07C323-51
NCL 568041000
CC 23-14 (Aliphatic Compounds)
Section cross-reference(s): 45
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	US 5352837	A	19941004	US 1993-73763	19930608	<--
	ZA 9305850	A	19940525	ZA 1993-5850	19930811	<--
	WO 9429254	A1	19941222	WO 1993-US8552	19930909	<--
	W: AT, AU, BB, BG, BR, BY, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, VN					
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG					
	AU 9351268	A1	19950103	AU 1993-51268	19930909	<--
	AU 673856	B2	19961128			
	BR 9307864	A	19960123	BR 1993-7864	19930909	<--
	EP 703890	A1	19960403	EP 1993-922171	19930909	<--
	EP 703890	B1	19990407			
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE					
	JP 09501145	T2	19970204	JP 1993-501709	19930909	<--
	RU 2118314	C1	19980827	RU 1996-100238	19930909	<--
	EP 889029	A2	19990107	EP 1998-114518	19930909	<--
	EP 889029	A3	20020313			
	R: BE, DE, DK, ES, FR, GB, IT, LU, NL, MC, PT, IE					
	AT 178594	E	19990415	AT 1993-922171	19930909	<--
	ES 2131120	T3	19990716	ES 1993-922171	19930909	<--
	CN 1096779	A	19941228	CN 1993-118591	19931009	<--
	CN 1041414	B	19981230			
	US 5637766	A	19970610	US 1995-557699	19951113	<--
	US 5925794	A	19990720	US 1996-668572	19960620	<--
	US 5744647	A	19980428	US 1996-679701	19960711	<--
	US 6031138	A	20000229	US 1998-102025	19980622	<--
	US 6320076	B1	20011120	US 1999-470407	19991222	<--
	US 2002173677	A1	20021121	US 2001-972748	20011005	<--
	US 6548701	B2	20030415			
PRAI	US 1993-73763	A	19930608	<--		
	EP 1993-922171	A3	19930909	<--		
	WO 1993-US8552	W	19930909	<--		
	US 1994-273216	B1	19940711	<--		
	US 1995-421P	P	19950622	<--		
	US 1995-557699	A2	19951113	<--		
	US 1996-667099	B1	19960620	<--		
	US 1996-668572	B1	19960620	<--		
	US 1998-102025	A3	19980622	<--		
	US 1999-470407	A1	19991222	<--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5352837	ICM	C07C323-50
	ICS	C07C323-51
	NCL	568041000
WO 9429254	ECLA	C07C045/35+47/22; C07C045/78A; C07C045/81; C07C319/18 <--
EP 889029	ECLA	C07C319/18 <--
US 5744647	ECLA	C07C045/35+47/22 <--
US 6031138	ECLA	C07C319/18 <--
US 6320076	ECLA	C07C045/35+47/22; C07C045/78A; C07C045/81; C07C319/18 <--
US 2002173677	ECLA	C07C045/35+47/22; C07C045/78A; C07C045/81; C07C319/18 <--

AB A process for the continuous preparation of 3-(methylthio)propanal. A liquid reaction medium is contacted with a gaseous acrolein feed stream in a gas/liquid contact zone. The reaction medium contains 3-(methylthio)propanal, Me mercaptan and a catalyst for the reaction between Me mercaptan and acrolein. The gaseous acrolein feed stream comprises acrolein vapor and non-condensable gas. Acrolein is transferred from the

acrolein feed stream to the reaction medium and reacts with Me mercaptan in that medium to produce a liquid reaction product containing 3-(methylthio)propanal. The non-condensable gas is separated from the liquid reaction product. The reaction product is divided into a product fraction and a circulating fraction, and the circulating fraction is recycled to the gas/liquid contact zone.

ST methylthiopropanal prepn continuous process; propanal methylthio prepn continuous process; acrolein reaction methyl mercaptan continuous process

IT 74-98-6P, Propane, preparation 75-07-0P, Acetaldehyde, preparation 79-10-7P, Acrylic acid, preparation 123-38-6P, Propanal, preparation
RL: **BYP (Byproduct); PREP (Preparation)**
(continuous process for preparation of 3-**(methylthio) propanal** from a gaseous acrolein feed stream)

IT 5153-63-9, Pyridinium acetate
RL: CAT (Catalyst use); USES (Uses)
(continuous process for preparation of 3-(methylthio)propanal from a gaseous acrolein feed stream)

IT **107-02-8P**, Acrolein, preparation
RL: **IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)**
(continuous process for preparation of 3-**(methylthio) propanal** from a gaseous acrolein feed stream)

IT **3268-49-3P**, 3-**(Methylthio)propanal**
RL: **IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)**
(continuous process for preparation of 3-**(methylthio) propanal** from a gaseous acrolein feed stream)

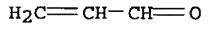
IT 7732-18-5P, Water, preparation
RL: **PNU (Preparation, unclassified); PREP (Preparation)**
(continuous process for preparation of 3-**(methylthio) propanal** from a gaseous acrolein feed stream)

IT **74-93-1**, Methyl mercaptan, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(continuous process for preparation of 3-(methylthio)propanal from a gaseous acrolein feed stream)

IT 115-07-1, Propylene, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation to acrolein; continuous process for preparation of 3-(methylthio)propanal from a gaseous acrolein feed stream)

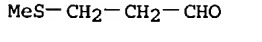
IT **107-02-8P**, Acrolein, preparation
RL: **IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)**
(continuous process for preparation of 3-**(methylthio) propanal** from a gaseous acrolein feed stream)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



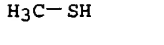
IT **3268-49-3P**, 3-**(Methylthio)propanal**
RL: **IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)**
(continuous process for preparation of 3-**(methylthio) propanal** from a gaseous acrolein feed stream)

RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



IT **74-93-1**, Methyl mercaptan, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(continuous process for preparation of 3-(methylthio)propanal from a gaseous acrolein feed stream)

RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)



L34 ANSWER 13 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:655416 HCAPLUS
DN 121:255416
ED Entered STN: 26 Nov 1994
TI Phenyl amidine thio derivatives useful as platelet aggregation inhibitors
IN Adams, Steven Paul; Lindmark, Richard John; Miyano, Masateru; Rico, Joseph Gerace
PA G.D. Searle and Co., USA; Monsanto Co.
SO PCT Int. Appl., 94 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07C317-50
ICS C07C323-59; C07D213-71; A61K031-155; A61K031-44
CC 25-19 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 1
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9418162	A1	19940818	WO 1994-US600	19940131 <--
W: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US, UZ, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5409939	A	19950425	US 1993-17203	19930212 <--
AU 9462299	A1	19940829	AU 1994-62299	19940131 <--
US 5543425	A	19960806	US 1994-330486	19941028 <--
PRAI US 1993-17203	A	19930212 <--		
WO 1994-US600	W	19940131 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9418162	ICM	C07C317-50
	ICS	C07C323-59; C07D213-71; A61K031-155; A61K031-44
US 5409939	ECLA	C07C317/28; C07C317/50; C07C323/59; C07D213/71 <--

OS MARPAT 121:255416
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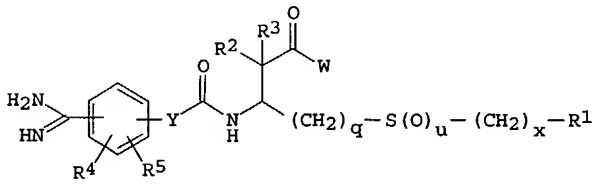
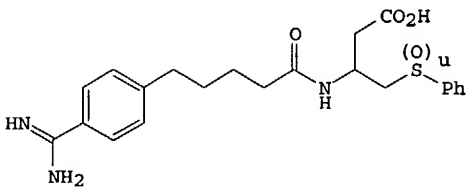


I

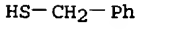


II

AB The invention relates to compds. I [R1 = alkyl, (un)substituted Ph, 5- or 6-membered heteroaryl containing 1 N, O, or S atom; R2, R3 = H, alkyl; R4, R5 = H, alkyl, alkoxy, halo; Y = alkylene, alkenylene, alkynylene; W = OR where R = H or alkyl; q = 1-4; u = 0-2; x = 0-3], which are useful in the inhibition of platelet aggregation. For example, alkylation of PhSH by ClCH2COCH2CO2Me, reductive amination of the resulting PhSCH2COCH2CO2Me, and hydrolysis, gave (.+-.)-PhSCH2CH(NH2)CH2CO2H, which was coupled with p-[H2NC(:NH)]C6H4(CH2)4CO2H using di-N,N'-succinimidyl carbonate and DMAP, to give title compound (.+-.)-II (u = 0). Stepwise oxidation with H2O2 in aqueous AcOH gave the sulfinyl compound (.+-.)-II (u = 1) and then the sulfone (.+-.)-II (u = 2). The latter had an IC50 of 0.028 .mu.M for inhibition of collagen-induced aggregation in canine platelet-rich plasma in vitro.

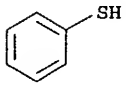
Search done by Noble Jarrell

ST amidinophenyl thio prepn platelet aggregation inhibitor
IT Blood platelet aggregation inhibitors
(preparation of Ph amidine thio derivs. as platelet aggregation inhibitors)
IT 158510-09-9P 158510-15-7P 158510-23-7P 158510-27-1P 158510-31-7P
158510-35-1P 158510-39-5P 158510-45-3P 158510-49-7P 158535-26-3P
158570-13-9P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of Ph amidine thio derivs. as platelet aggregation inhibitors)
IT 158510-11-3P 158510-13-5P 158510-17-9P 158510-19-1P 158510-21-5P
158510-25-9P 158510-29-3P 158510-33-9P 158510-37-3P 158510-41-9P
158510-43-1P 158510-47-5P 158510-51-1P 158510-53-3P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of Ph amidine thio derivs. as platelet aggregation inhibitors)
IT **100-53-8**, Benzyl mercaptan **107-02-8**, Acrolein, reactions
108-98-5, Thiophenol, reactions 124-63-0, Methanesulfonyl chloride **371-42-6**, p-Fluorothiophenol 590-17-0, Bromoacetonitrile 623-73-4, Ethyl diazoacetate **696-63-9**, p-Methoxythiophenol 1071-46-1, Ethyl hydrogen malonate 1073-72-9, p-Methyl(thiophenol) 2637-34-5, 2-Mercaptopyridine **5188-07-8**, Sodium thiomethoxide 7022-45-9, 2-(Methylthio)benzaldehyde 7536-58-5, N-(tert-Butoxycarbonyl)aspartic acid, .beta.-benzyl ester 32807-28-6, Methyl 4-chloroacetoacetate 152151-37-6, 5-(p-Amidinophenyl)pentanoic acid
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(preparation of Ph amidine thio derivs. as platelet aggregation inhibitors)
IT **3268-49-3P**, 3-**(Methylthio)propionaldehyde**
21681-88-9P, p-Tolylthioacetonitrile 42404-23-9P, 1-Amino-2-(4-tolylthio)ethane 71483-05-1P, 4-(Phenylthio)-3-oxobutanoic acid 79069-16-2P, (S)-Benzyl 3-(tert-butoxycarbonylamino)-4-hydroxybutyrate 118123-92-5P, 5-(Methylthio)-3-oxopentanoic acid 118743-11-6P 149193-64-6P, (S)-Benzyl 3-(tert-butoxycarbonylamino)-4-(methylsulfonyloxy)butyrate 158510-54-4P, (.+-.)-3-Amino-5-(benzylthio)pentanoic acid 158510-55-5P 158510-56-6P, (.+-.)-3-Amino-4-(4-methylphenylthio)butanoic acid 158510-57-7P, (.+-.)-3-Amino-4-(4-methylphenylthio)butanoic acid methyl ester 158510-58-8P, (.+-.)-3-Amino-4-(4-methoxyphenylthio)butanoic acid 158510-59-9P 158510-60-2P, (.+-.)-3-Amino-4-(4-methoxyphenylthio)butanoic acid methyl ester 158510-61-3P 158510-62-4P, (.+-.)-3-Amino-4-(4-fluorophenylthio)butanoic acid methyl ester 158510-63-5P, (.+-.)-3-Amino-4-(2-pyridylthio)butanoic acid 158510-64-6P 158510-65-7P, (.+-.)-3-Amino-4-(2-pyridylthio)butanoic acid methyl ester 158510-66-8P, (.+-.)-3-Amino-4-(phenylthio)butanoic acid 158510-68-0P, (.+-.)-3-Amino-3-[2-(methylthio)phenyl]propanoic acid 158510-69-1P, (S)-Benzyl 3-amino-4-(2-pyridylsulfonyl)butyrate 158510-70-4P, (S)-Benzyl 3-(tert-butoxycarbonylamino)-4-(2-pyridylthio)butyrate 158570-14-0P, (.+-.)-3-Amino-5-(methylthio)pentanoic acid 158702-52-4P, (.+-.)-3-Amino-4-(4-fluorophenylthio)butanoic acid 170726-32-6P, (.+-.)-3-Amino-4-(phenylthio)butanoic acid methyl ester
RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(preparation of Ph amidine thio derivs. as platelet aggregation inhibitors)
IT **100-53-8**, Benzyl mercaptan **107-02-8**, Acrolein, reactions
108-98-5, Thiophenol, reactions **371-42-6**, p-Fluorothiophenol **696-63-9**, p-Methoxythiophenol **5188-07-8**, Sodium thiomethoxide
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(preparation of Ph amidine thio derivs. as platelet aggregation inhibitors)
RN 100-53-8 HCAPLUS
CN Benzenemethanethiol (9CI) (CA INDEX NAME)

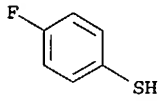


RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

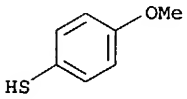
RN 108-98-5 HCAPLUS
CN Benzenethiol (8CI, 9CI) (CA INDEX NAME)



RN 371-42-6 HCAPLUS
CN Benzenethiol, 4-fluoro- (9CI) (CA INDEX NAME)



RN 696-63-9 HCAPLUS
CN Benzenethiol, 4-methoxy- (9CI) (CA INDEX NAME)



RN 5188-07-8 HCAPLUS
CN Methanethiol, sodium salt (8CI, 9CI) (CA INDEX NAME)

H_3C-SH

● Na

IT **3268-49-3P, 3-(Methylthio)propionaldehyde**
RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(preparation of Ph amidine thio derivs. as platelet aggregation inhibitors)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

$MeS-CH_2-CH_2-CHO$

L34 ANSWER 14 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:133858 HCAPLUS
DN 120:133858
ED Entered STN: 19 Mar 1994
TI Process for producing 2-hydroxy-4-methylthiobutanoic acid
IN Matsuoka, Kazuyuki
PA Daicel Chemical Industries, Ltd., Japan
SO PCT Int. Appl., 21 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM C07C323-52
CC 23-16 (Aliphatic Compounds)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9323372	A1	19931125	WO 1993-JP659	19930520 <--
W: US				
RW: BE, DE, FR, GB				
JP 06049020	A2	19940222	JP 1993-143026	19930520 <--
JP 3219544	B2	20011015		
EP 601195	A1	19940615	EP 1993-910360	19930520 <--

```
     EP 601195            B1    19960828
        R:  BE, DE, FR, GB
     CN 1084511           A     19940330    CN 1993-107598         19930521 <--
     CN 1036391           B     19971112
     US 5386056           A     19950131    US 1994-178315         19940112 <--
PRAI JP 1992-155802       A     19920521  <--
     WO 1993-JP659        W     19930520  <--
CLASS
 PATENT NO.       CLASS  PATENT FAMILY CLASSIFICATION CODES
 --------------   -----  ----------------------------------------------
 WO 9323372       ICM    C07C323-52
 EP 601195        ECLA   C07C319/18; C07C319/20                          <--
 US 5386056       ECLA   C07C319/18; C07C319/20                          <--
OS   CASREACT 120:133858
AB   A process for producing 2-hydroxy-4-methylthiobutanoic acid (I) together
     with methanol comprises hydrating 2-hydroxy-4-methylthiobutyronitrile (II)
     into 2-hydroxy-4-methylthiobutanamide (III), reacting the amide with Me
     formate to yield Me 2-hydroxy-4-methylthiobutanoate (IV) and formamide,
     and hydrolyzing the Me ester.  The discharge of a large amount of ammonium
     sulfate can be prevented, because no sulfuric acid is used as the
     reactant.  The byproduct formamide and methanol are utilizable as the
     starting material of the reaction after converting them into HCN and Me
     formate, resp.  Thus, addition of MeSH to acrolein in the presence of
     Cu(OAc)2 and hydroquinone and addition of the resulting 3-
     methylthiopropionaldehyde with HCN in the presence of NaOH in MeOH gave
     II.  Hydration of II in the presence of MnO2 in aqueous acetone at 60.degree.
     for 6 h to give III which was reacted with HCO2Me in MeOH containing MeONa to
     give IV and the byproduct formamide.  Hydrolysis of IV in the presence of
     Amberlyst 15 in H2O at 95.degree. gave I, while the byproduct MeOH was
     recovered.  Formamide was fed into a stainless steel reactor packed with
     alumina at 500.degree. to give HCN.  MeOH was contacted with a catalyst
     prepared from Cu(NO3)2 and ammonium chromate in a stainless steel reactor to
     give Me formate.
ST   hydroxymethylthiobutanoic acid prepn; hydroxymethylthiobutyronitrile
     hydration; hydroxymethylthiobutanamide esterification methyl formate
IT   107-02-8, Acrolein, reactions
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (addition of, with methanethiol)
IT   74-90-8, Hydrogen cyanide, reactions
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (addition of, with methylthiopropionaldehyde)
IT   74-93-1, Methanethiol, reactions
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (addition reaction of, with acrolein)
IT   3251-23-8, Copper nitrate
     RL: CAT (Catalyst use); USES (Uses)
        (catalyst from ammonium chromate and, for conversion of methanol into
        Me formate)
IT   7788-98-9, Ammonium chromate
     RL: CAT (Catalyst use); USES (Uses)
        (catalyst from copper nitrate and, for conversion of methanol into Me
        formate)
IT   1344-28-1, Alumina, uses
     RL: CAT (Catalyst use); USES (Uses)
        (catalyst, for dehydration of formamide to hydrogen cyanide)
IT   107-31-3, Methyl formate
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (esterification by, of hydroxymethylthiobutanamide)
IT   67-56-1P, Methanol, reactions
     RL: SPN (Synthetic preparation); PREP (Preparation)
        (formation and conversion of, into Me formate, in preparation of
        hydroxy(methylthio)butanoic acid)
IT   75-12-7P, Formamide, reactions
     RL: SPN (Synthetic preparation); PREP (Preparation)
        (formation and conversion of, into hydrogen cyanide, in preparation of
        hydroxy(methylthio)butanoic acid)
IT   3268-49-3P, 3-Methylthiopropionaldehyde
     RL: SPN (Synthetic preparation); PREP (Preparation)
        (preparation and addition of, with hydrogen cyanide)
IT   49540-21-8P, 2-Hydroxy-4-methylthiobutanamide
     RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
        (preparation and esterification of, by Me formate)
IT   17773-41-0P, 2-Hydroxy-4-methylthiobutyronitrile
     RL: SPN (Synthetic preparation); PREP (Preparation)
        (preparation and hydration of)
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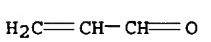
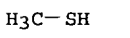
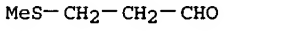
IT 52703-96-5P, Me 2-hydroxy-4-methylthiobutanoate
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and saponification of)
IT 583-91-5P, 2-Hydroxy-4-methylthiobutanoic acid
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, via addition of acrolein with methanethiol and hydrogen cyanide and hydration and esterification of hydroxymethylthiobutanamide)
IT **107-02-8**, Acrolein, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(addition of, with methanethiol)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



IT **74-93-1**, Methanethiol, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(addition reaction of, with acrolein)
RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)



IT **3268-49-3P**, 3-Methylthiopropionaldehyde
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation and addition of, with hydrogen cyanide)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



L34 ANSWER 15 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1990:630786 HCAPLUS
DN 113:230786
ED Entered STN: 22 Dec 1990
TI Photochemical preparation of 3-(organothio)aldehydes from a mercaptan and .alpha.,.beta.-unsaturated aliphatic aldehydes
IN Sandler, Stanley R.
PA Pennwalt Corp., USA
SO U.S., 3 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM B01J019-08
NCL 204157760
CC 23-14 (Aliphatic Compounds)
Section cross-reference(s): 5, 62
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 4944853	A	19900731	US 1989-405784	19890911 <--
IN 173789	A	19940716	IN 1990-CA292	19900409 <--
JP 03184952	A2	19910812	JP 1990-94184	19900411 <--
EP 417386	A1	19910320	EP 1990-107565	19900420 <--
R: BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE				
AU 9053784	A1	19910411	AU 1990-53784	19900423 <--
AU 631202	B2	19921119		
BR 9001870	A	19911112	BR 1990-1870	19900423 <--
PRAI US 1989-405784	A	19890911 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 4944853	ICM	B01J019-08
	NCL	204157760

OS CASREACT 113:230786; MARPAT 113:230786
AB 3-(Organothio)aldehydes R1CH(SR2)CH2CHO (I; R1 = H, C1-7 alkyl; R2 = C1-12 alkyl, C5-6 cycloalkyl, C6-12 aryl or alkaryl), useful as intermediates

for the preparation of pesticides and antioxidants and as odorant or flavoring agents, are prepared by reaction of a mercaptan with substantially equimolar amount of .alpha.,.beta.-unsatd. aliphatic aldehyde at .apprx.2.degree.-60.degree. in the absence of O-containing gas. Thus, a solution of 3.0 mol EtSH and 3.0 mol crotonaldehyde was cooled to 2-20.degree. and was photolyzed in a 500 mL borosilicate reactor under the irradiation with a 450 W Hanovia high-pressure Hg lamp, while a slow stream of N was passed into the reactor. I (R1 = Me, R2 = Et) was obtained in 55.2% yield.

ST unsatd aldehyde photochem addn mercaptan

IT Antioxidants
Pesticides
(intermediates for, .gamma.-(organothio)alkanals as)

IT Addition reaction
(photochem., of .alpha.,.beta.-unsatd. aldehydes with mercaptans)

IT 4170-30-3, Crotonaldehyde
RL: RCT (Reactant); RACT (Reactant or reagent)
(photochem. addition of, with Et mercaptan)

IT **107-02-8**, Acrolein, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(photochem. addition of, with Me mercaptan)

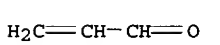
IT **74-93-1**, Methyl mercaptan, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(photochem. addition of, with acrolein)

IT **75-08-1**, Ethyl mercaptan
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(photochem. addition of, with crotonaldehyde)

IT **3268-49-3P**, 3-**(Methylthio)propanal**
27205-24-9P, 3-(Ethylthio)butanal
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of, photochem. addition in)

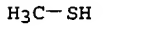
IT **107-02-8**, Acrolein, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(photochem. addition of, with Me mercaptan)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



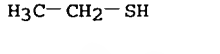
IT **74-93-1**, Methyl mercaptan, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(photochem. addition of, with acrolein)

RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)



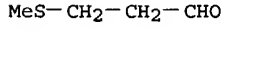
IT **75-08-1**, Ethyl mercaptan
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(photochem. addition of, with crotonaldehyde)

RN 75-08-1 HCAPLUS
CN Ethanethiol (8CI, 9CI) (CA INDEX NAME)



IT **3268-49-3P**, 3-**(Methylthio)propanal**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of, photochem. addition in)

RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



L34 ANSWER 16 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1985:487504 HCAPLUS
DN 103:87504
ED Entered STN: 22 Sep 1985
TI Continuous preparation of .beta.-methylmercaptopropionaldehyde

IN Pavlovschi, Ana Maria; Levinta, Lucia; Gross, Gernot Holger
PA Combinatul Petrochimic, Pitesti, Rom.
SO Rom., 2 pp.
CODEN: RUXXA3
DT Patent
LA Romanian
IC ICM C07C151-00
CC 23-14 (Aliphatic Compounds)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI RO 85095	B	19840924	RO 1982-106977	19820322 <--
PRAI RO 1982-106977		19820322 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
RO 85095	ICM	C07C151-00

AB The addition reaction of CH2:CHCHO with MeSH at atmospheric pressure at 30-45.degree. gave MeSCH2CH2CHO in high yields.
ST addn acrolein methanethiol; propionaldehyde methylthio; methylthiopropionaldehyde
IT Addition reaction
(of acrolein with methanethiol)
IT **74-93-1**, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(addition of, with acrolein)
IT **107-02-8**, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(addition of, with methanethiol)
IT **3268-49-3P**
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of)
IT **74-93-1**, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(addition of, with acrolein)
RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H_3C-SH

IT **107-02-8**, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(addition of, with methanethiol)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

$H_2C=CH-CH=O$

IT **3268-49-3P**
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

$MeS-CH_2-CH_2-CHO$

L34 ANSWER 17 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1984:105476 HCAPLUS
DN 100:105476
ED Entered STN: 12 May 1984
TI New process solved handling problems
AU Niklasson, Rune
CS Rhone-Poulenc, Fr.
SO Kemisk Tidskrift (1969-1993) (1983), 95(12), 33
CODEN: KETIAL; ISSN: 0039-6605
DT Journal
LA Swedish
CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 34

AB The handling of toxic, flammable acrolein [107-02-8] in the manufacture of methionine [59-51-8] via MeSCH2CH2CHO (I) [3268-49-3] is minimized by in-plant synthesis of acrolein (from propene) and absorption in I prior to reaction with MeSH [74-93-1] to give I.

ST acrolein prepn conversion methylthiopropanal; methylthiopropanal prepn conversion methionine; methionine manuf acrolein methylthiopropanal; propanal methylthio prepn conversion methionine

IT Amino acids, preparation
RL: **PREP (Preparation)**
(manufacture of methionine, from **(methylthio)propanal**, with min. handling of acrolein)

IT 59-51-8P
RL: **PREP (Preparation)**
(manufacture of, from **(methylthio)propanal**, with min. handling of acrolein)

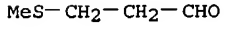
IT **3268-49-3P**
RL: **PREP (Preparation)**
(preparation and conversion to methionine)

IT **107-02-8P**, preparation
RL: **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); **RACT (Reactant or reagent)**
(preparation and reaction with methanethiol, in manufacture of methionine)

IT **74-93-1**, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(reaction of, with acrolein)

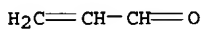
IT **3268-49-3P**
RL: **PREP (Preparation)**
(preparation and conversion to methionine)

RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



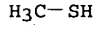
IT **107-02-8P**, preparation
RL: **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); **RACT (Reactant or reagent)**
(preparation and reaction with methanethiol, in manufacture of methionine)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



IT **74-93-1**, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(reaction of, with acrolein)

RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)



L34 ANSWER 18 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1982:492707 HCAPLUS
DN 97:92707
ED Entered STN: 12 May 1984
TI Secondary transformations of .beta.-methylmercaptopropionaldehyde in methionine production
AU Balakin, V. S.; Gorbunov, B. N.; Zvegintseva, G. B.; Romanova, L. S.
CS USSR
SO Khimicheskaya Promyshlennost (Moscow, Russian Federation) (1982), (2), 84-5
CODEN: KPRMAW; ISSN: 0023-110X
DT Journal
LA Russian
CC 34-2 (Amino Acids, Peptides, and Proteins)
AB Condensation of MeSH and acrolein gave MeSCH2CH2CHO (I), which was converted to methionine by condensation with NH3 and HCN. By-products in the formation of I were the oligomer HO[CH(CH2CH2SMe)O]x and aldol condensation products of I. The effects of reaction conditions on the rate of formation and extent of formation of these by-products were determined

ST methylmercaptopropionaldehyde methionine intermediate; methylthiopropanal byproduct formation; oligomer acetal methylthiopropanal; aldol condensation methylthiopropanal; methional byproduct formation

IT **74-93-1**, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(addition reaction of, with acrolein)

IT **107-02-8**, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(addition reaction of, with methanethiol)

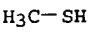
IT 82764-99-6P
RL: FORM (Formation, nonpreparative); **PREP (Preparation)**
(formation of, as by-product in reactions of **methional**)

IT **3268-49-3P**
RL: **SPN (Synthetic preparation)**; FORM (Formation, nonpreparative); **PREP (Preparation)**
(formation of, as intermediate in preparation of methionine)

IT 59-51-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, from methylthiopropanal, by-products in)

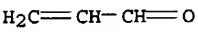
IT **74-93-1**, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(addition reaction of, with acrolein)

RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)



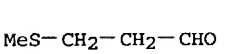
IT **107-02-8**, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(addition reaction of, with methanethiol)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



IT **3268-49-3P**
RL: **SPN (Synthetic preparation)**; FORM (Formation, nonpreparative); **PREP (Preparation)**
(formation of, as intermediate in preparation of methionine)

RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



L34 ANSWER 19 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1981:191700 HCAPLUS
DN 94:191700
ED Entered STN: 12 May 1984
TI Direct preparation of .beta.-methylthiopropionaldehyde
IN Komorn, Yves; Schwachhofer, Ghislain
PA Rhone-Poulenc Industries S. A., Fr.
SO Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW
DT Patent
LA French
IC C07C149-14
CC 23-14 (Aliphatic Compounds)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 22697	A1	19810121	EP 1980-400951	19800625 <--
	EP 22697	B1	19811230		
	R: BE, CH, DE, FR, GB, IT, NL, SE				
	FR 2460925	A1	19810130	FR 1979-17827	19790710 <--
	FR 2460925	B1	19810814		
	US 4319047	A	19820309	US 1980-164539	19800702 <--
	BR 8004260	A	19810127	BR 1980-4260	19800709 <--
	ES 493224	A1	19810416	ES 1980-493224	19800709 <--
	CA 1138896	A1	19830104	CA 1980-355801	19800709 <--

	SU 1318153	A3	19870615	SU 1980-2948390	19800709 <--
	JP 56053648	A2	19810513	JP 1980-93336	19800710 <--
	JP 57008098	B4	19820215		
PRAI	FR 1979-17827	A	19790710 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 22697	IC	C07C149-14

AB Acrolein, prepared by air oxidation of propylene, was purified and treated with MeSH to yield MeSCH2CH2CHO in an apparatus which is described. The acrylic acid impurity was removed from the acrolein by countercurrent washing in water or solvent; the water was removed by condensation and the condensate was partially vaporized to recover acrolein.

ST methylthiopropionaldehyde; propionaldehyde methylthio; acrylic acid removal acrolein; acrolein addn methanethiol

IT **74-93-1**, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(addition reaction of, with acrolein)

IT **107-02-8P**, reactions
RL: **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); **RACT (Reactant or reagent)**
(preparation and addition reaction of, with methanethiol)

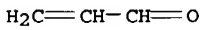
IT **3268-49-3P**
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of)

IT **74-93-1**, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(addition reaction of, with acrolein)

RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

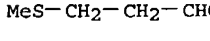
IT **107-02-8P**, reactions
RL: **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); **RACT (Reactant or reagent)**
(preparation and addition reaction of, with methanethiol)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



IT **3268-49-3P**
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of)

RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



L34 ANSWER 20 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1977:120784 HCAPLUS
DN 86:120784
ED Entered STN: 12 May 1984
TI .beta.-Methylthiopropionaldehyde
IN Biola, Georges; Komorn, Yves; Limongi, Eric
PA Rhone-Poulenc S. A., Fr.
SO Ger. Offen., 12 pp.
CODEN: GWXXBX
DT Patent
LA German
IC C07C149-14
CC 23-14 (Aliphatic Compounds)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2627430	A1	19761223	DE 1976-2627430	19760618 <--
	DE 2627430	B2	19770721		
	DE 2627430	C3	19850110		

FR 2314917	A1	19770114	FR 1975-20183	19750620	<--
SU 691086	D	19791005	SU 1976-2370202	19760615	<--
US 4225516	A	19800930	US 1976-696432	19760615	<--
JP 52003013	A2	19770111	JP 1976-70901	19760616	<--
JP 57000317	B4	19820106			
ES 448918	A1	19770701	ES 1976-448918	19760616	<--
BE 843077	A1	19761217	BE 1976-168033	19760617	<--
NL 7606580	A	19761222	NL 1976-6580	19760617	<--
NL 184517	B	19890316			
NL 184517	C	19890816			
SE 7607035	A	19761221	SE 1976-7035	19760618	<--
SE 431089	B	19840116			
SE 431089	C	19840426			
BR 7603949	A	19770322	BR 1976-3949	19760618	<--
CH 610882	A	19790515	CH 1976-7831	19760618	<--
CA 1069536	A1	19800108	CA 1976-255246	19760618	<--

PRAI FR 1975-20183 19750620 <--

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 2627430	IC	C07C149-14

AB The waste gas from acrolein (I) synthesis containing .apprx.5% I was freed from H2C:CHCO2H and H2O and dissolved in MeSCH2CH2CHO (II), then treated with MeSH at .apprx.30.degree. to give MeSCH2CH2C(SMe)OH, which was maintained at .apprx.0.15% in the solution The combined yield of II was 99%.

ST propionaldehyde methylthio; methylthiopropionaldehyde

IT **3268-49-3P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)

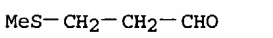
IT **74-93-1**, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(reaction of, with acrolein)

IT **107-02-8**, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(reaction of, with methyl mercaptan)

IT **3268-49-3P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)

RN 3268-49-3 HCAPLUS

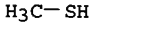
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



IT **74-93-1**, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(reaction of, with acrolein)

RN 74-93-1 HCAPLUS

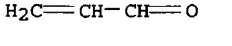
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)



IT **107-02-8**, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(reaction of, with methyl mercaptan)

RN 107-02-8 HCAPLUS

CN 2-Propenal (9CI) (CA INDEX NAME)



L34 ANSWER 21 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1976:576769 HCAPLUS

DN 85:176769

ED Entered STN: 12 May 1984

TI Development of a continuous method for preparation of 3-(methylthio)propionaldehyde

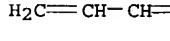
AU Zvegintseva, G. B.; Medvedev, A. I.; Reimer, M. I.; Dyadchenko, M. A.

CS Nauchno-Issled. Inst. Khim. Polim. Mater., Tambov, USSR

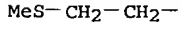
SO Tezisy Dokl. Nauchn. Sess. Khim. Tekhnol. Org. Soedin. Sery Sernistykh Neftei, 13th (1974), 343. Editor(s): Gal'pern, G. D. Publisher:

"Zinatne", Riga, USSR.
CODEN: 33SUAA
DT Conference
LA Russian
CC 23-14 (Aliphatic Compounds)
AB A math. model was used to optimize a continuous process for MeSCH2CH2CHO (I) synthesis by reacting MeSH with acrolein (II); I was saturated with MeSH, and the resulting solution was treated with II in the presence of Et3N.
ST methylthio propionaldehyde model optimization; addn methanethiol acrolein model optimization
IT Optimization
Simulation model
(of (methylthio)propionaldehyde synthesis by addition reaction of methanethiol with acrolein)
IT Addition reaction
(of methylmercaptan with acrolein, simulation, optimization, and catalysis of)
IT Addition reaction catalysts
(triethylamine, for methylmercaptan with acrolein)
IT **74-93-1**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction of, with acrolein, (methylthio)propionaldehyde by, catalysis, simulation, and optimization of)
IT **107-02-8**, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with methanethiol, catalysis, simulation, and optimization of)
IT **3268-49-3P**
RL: **PREP (Preparation)**
(by addition reaction of methanethiol with acrolein, catalysis, simulation, and optimization of)
IT 121-44-8, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalyst, for addition reaction of methanethiol with acrolein, simulation and optimization with)
IT **74-93-1**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction of, with acrolein, (methylthio)propionaldehyde by, catalysis, simulation, and optimization of)
RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

IT **107-02-8**, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with methanethiol, catalysis, simulation, and optimization of)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



IT **3268-49-3P**
RL: **PREP (Preparation)**
(by addition reaction of methanethiol with acrolein, catalysis, simulation, and optimization of)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



L34 ANSWER 22 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1976:523278 HCAPLUS
DN 85:123278
ED Entered STN: 12 May 1984
TI Peroxide initiation of the reaction of mercaptans with unsaturated compounds
AU Rykov, B. K.; Sizov, S. Yu.; Sukhanov, S. V.

CS Volzh. Zavod. Org. Sint., Volzhsk, USSR
SO Tezisy Dokl. Nauchn. Sess. Khim. Tekhnol. Org. Soedin. Sery Sernistykh Neftei, 13th (1974), 343. Editor(s): Gal'pern, G. D. Publisher: "Zinatne", Riga, USSR.
CODEN: 33SUAA
DT Conference
LA Russian
CC 23-9 (Aliphatic Compounds)
AB RSH (R = lower alkyl, e.g., Me) addition to unsatd. compds. (e.g., acrolein) to give the corresponding sulfides (e.g., MeSCH2CH2CHO) was initiated by organic peroxides; .alpha.-haloacyl peroxides were recommended.
ST addn mercaptan unsatd compd; methanethiol addn acrolein initiator; peroxide initiator mercaptan addn acrolein; sulfide methyl formylethyl
IT Unsaturated compounds
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction of mercaptans with, initiator for)
IT **Thiols, reactions**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with unsatd. compds.)
IT Sulfides, preparation
RL: PREP (Preparation)
(by addition reaction of mercaptans with unsatd. compds., initiator for)
IT Addition reaction catalysts
(haloacyl peroxides, initiators, for mercaptans with unsatd. compds.)
IT Peroxides, uses and miscellaneous
RL: USES (Uses)
(haloacyl, initiators, for addition reaction of mercaptans with unsatd. compds.)
IT Addition reaction
(of mercaptans with unsatd. compds.)
IT **74-93-1**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with acrolein, initiator for)
IT **107-02-8**, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with methyl mercaptan, initiator for)
IT **3268-49-3P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)
IT **74-93-1**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with acrolein, initiator for)
RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H_3C-SH

IT **107-02-8**, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with methyl mercaptan, initiator for)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

$H_2C=CH-CH=O$

IT **3268-49-3P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

$MeS-CH_2-CH_2-CHO$

L34 ANSWER 23 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1975:409198 HCAPLUS
DN 83:9198
ED Entered STN: 12 May 1984
TI S-Substituted mercaptopropionaldehyde
IN Ito, Hiroo; Kimura, Kaoru; Yamada, Akira

PA Toa Gosei Chemical Industry Co., Ltd.
SO Jpn. Tokkyo Koho, 3 pp.
CODEN: JAXXAD
DT Patent
LA Japanese
IC C07C; B01J
CC 23-14 (Aliphatic Compounds)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 49024045	B4	19740620	JP 1970-43681	19700523 <--
PRAI JP 1970-43681		19700523 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 49024045	IC	C07CIC B01J

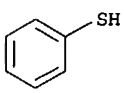
AB Cr(OAc)3.H2O and n-dodecylmercaptan were kept 1 hr at 30.degree. with acrolein, containing a polymerization inhibitor (e.g. hydroquinone), to give 82.1% .beta.-n-dodecylthiopropionaldehyde. The reaction of RSH (R = Me, Et, Bu, Ph) with RCH:CR1CHO (R = H, R1 = H, Me; R = Me, R1 = H) and inorg. Cr salts were also discussed.
ST addn mercaptan unsatd aldehyde; mercaptopropionaldehyde substituted; propionaldehyde mercapto substituted; dodecylthiopropionaldehyde
IT Aldehydes, preparation
RL: PREP (Preparation)
(S-substituted mercapto-)
IT **Thiols, reactions**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with unsatd. aldehydes)
IT Addition reaction catalysts
(chromium salts, for thiols with unsatd. aldehydes)
IT 55154-15-9 55184-91-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction catalyst, for mercaptan with acroleins)
IT 123-54-6D, 2,4-Pentanedione, chromium complexes 1066-30-4 7440-47-3D, Chromium, 2,4-pentanedione complexes 10103-47-6 39345-92-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction catalyst, for mercaptans with acroleins)
IT **74-93-1 75-08-1 108-98-5 109-79-5 112-55-0**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with acrolein)
IT 78-85-3 **107-02-8**, reactions 4170-30-3
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with thiols, catalysts for)
IT **3268-49-3P** 19378-51-9P 27098-65-3P 38160-52-0P 38160-57-5P 55154-14-8P
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)
IT **74-93-1 75-08-1 108-98-5 109-79-5 112-55-0**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with acrolein)
RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H_3C-SH

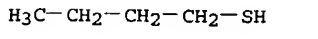
RN 75-08-1 HCAPLUS
CN Ethanethiol (8CI, 9CI) (CA INDEX NAME)

H_3C-CH_2-SH

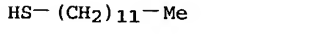
RN 108-98-5 HCAPLUS
CN Benzenethiol (8CI, 9CI) (CA INDEX NAME)



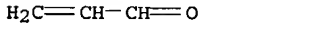
RN 109-79-5 HCAPLUS
CN 1-Butanethiol (8CI, 9CI) (CA INDEX NAME)



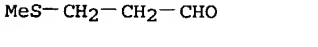
RN 112-55-0 HCAPLUS
CN 1-Dodecanethiol (7CI, 8CI, 9CI) (CA INDEX NAME)



IT **107-02-8**, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(addition reaction with thiols, catalysts for)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



IT **3268-49-3P**
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



L34 ANSWER 24 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1975:409197 HCAPLUS
DN 83:9197
ED Entered STN: 12 May 1984
TI .beta.-Methylthiopropionaldehyde and its alkyl derivatives
IN Ohuchi, Shunji; Shibuya, Kazumasa
PA Asahi Chemical Industry Co., Ltd.
SO Jpn. Tokkyo Koho, 3 pp.
CODEN: JAXXAD
DT Patent
LA Japanese
IC C07C; B01J
CC 23-14 (Aliphatic Compounds)
FAN.CNT 1

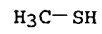
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 49024046	B4	19740620	JP 1970-78498	19700909 <--
PRAI JP 1970-78498		19700909 <--		

CLASS

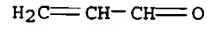
PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 49024046	IC	C07CIC B01J

AB MeSH was added to RCH:CR1COR2 (R, R1, R2 = H, alkyl) in EtOH containing .beta.-PhNHC10H7, NH4O2CNH2, NH4HCO3, (NH4)2CO3, NH4Cl-NaHCO3, or NH3-CO2 at 10-20.degree. to give .ltoreq.90% MeSCHRCHR1COR2.
ST addn methylmercaptan acrolein; catalyst addn methylmercaptan acrolein; thiol addn acrolein deriv
IT Addition reaction catalysts
(ammonium bicarbonate-phenylnaphthylamine, for acrolein and methylmercaptan)
IT Addition reaction
(of methylmercaptan with acrolein, (methylthio)propionaldehydes from)
IT **74-93-1**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(addition reaction of, with acrolein, catalyst for)
IT **107-02-8**, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(addition reaction with methylmercaptan, catalysts for)
IT **3268-49-3P**
RL: **PREP (Preparation)**

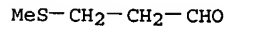
(by addition reaction of methylmercaptan with acrolein, catalyst for)
IT 506-87-6 1111-78-0
RL: CAT (Catalyst use); USES (Uses)
(catalyst, for addition reaction of methylmercaptan with acrolein)
IT 124-38-9, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalyst, with ammonia, for methylmercaptan addition with acrolein)
IT 135-88-6
RL: CAT (Catalyst use); USES (Uses)
(catalyst, with ammonium bicarbonate, for addition reaction of methylmercaptan with acrolein)
IT 144-55-8, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalyst, with ammonium chloride)
IT 12125-02-9, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalyst, with sodium bicarbonate, for methylmercaptan addition with acrolein)
IT 7664-41-7, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalysts, with carbon dioxide, for methylmercaptan addition with acrolein)
IT 1066-33-7
RL: CAT (Catalyst use); USES (Uses)
(catalysts, with phenylnaphthylamine, for methylmercaptan addition with acrolein)
IT **74-93-1**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(addition reaction of, with acrolein, catalyst for)
RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)



IT **107-02-8**, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(addition reaction with methylmercaptan, catalysts for)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



IT **3268-49-3P**
RL: **PREP (Preparation)**
(by addition reaction of methylmercaptan with acrolein, catalyst for)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



L34 ANSWER 25 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1975:16324 HCAPLUS
DN 82:16324
ED Entered STN: 12 May 1984
TI .beta.-(Methylthio)propionaldehyde
IN Sizov, S. Yu.; Sukhanov, S. V.; Rykov, V. K.; Shustov, V. I.; Tsarenko, S. V.
PA Volzhskii Plant of Organic Synthesis
SO U.S.S.R.
From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1974, 51(34), 63.
CODEN: URXXAF
DT Patent
LA Russian
IC C07C
CC 23-14 (Aliphatic Compounds)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI SU 443029 T 19740915 SU 1972-1819472 19720810 <--
PRAI SU 1972-1819472 A 19720810 <--
CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
SU 443029	IC	C07C

AB MeSCH2CH2CHO (I) was prepared by treating acrolein with MeSH in an organic solvent (e.g., I) in 1:1 I-MeSH ratio.
ST methylthiopropionaldehyde; thiopropionaldehyde methyl; propionaldehyde methylthio; acrolein addn methylmercaptan
IT **74-93-1**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with acrolein)
IT **107-02-8**, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with methanethiol)
IT **3268-49-3P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)
IT **74-93-1**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with acrolein)
RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H_3C-SH

IT **107-02-8**, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with methanethiol)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

$H_2C=CH-CH=O$

IT **3268-49-3P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

$MeS-CH_2-CH_2-CHO$

L34 ANSWER 26 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1975:16319 HCAPLUS
DN 82:16319
ED Entered STN: 12 May 1984
TI 3-Methylmercaptopropionaldehyde
IN Koberstein, Edgar; Mueller, Klaus; Theissen, Ferdinand
PA Deutsche Gold- und Silber-Scheideanstalt vorm. Roessler
SO Ger., 3 pp.
CODEN: GWXXAW
DT Patent
LA German
IC C07C
CC 23-14 (Aliphatic Compounds)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DE 2320544	B1	19740912	DE 1973-2320544	19730421 <--
DE 2320544	C2	19750605		
US 4048232	A	19770913	US 1973-399127	19730920 <--
SU 505357	D	19760228	SU 1974-1996514	19740218 <--
DD 110862	C	19750112	DD 1974-176862	19740228 <--
ES 423736	A1	19760416	ES 1974-423736	19740228 <--
GB 1400702	A	19750723	GB 1974-9296	19740301 <--
NL 7404691	A	19741023	NL 1974-4691	19740405 <--
BR 7402784	A0	19741105	BR 1974-2784	19740408 <--
CH 582665	A	19761215	CH 1974-5019	19740410 <--

RO 68025	P	19801230	RO 1974-78468	19740418 <--
BE 813990	A1	19741021	BE 1974-6044553	19740419 <--
FR 2226393	A1	19741115	FR 1974-13752	19740419 <--
JP 50012012	A2	19750207	JP 1974-44369	19740419 <--
AT 7403268	A	19751215	AT 1974-3268	19740419 <--
AT 331773	B	19760825		
IT 1005995	A	19760930	IT 1974-50485	19740419 <--
CA 1005460	A1	19770215	CA 1974-197828	19740419 <--
SE 397344	B	19771031	SE 1974-5321	19740419 <--
PRAI DE 1973-2320544		19730421 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 2320544	IC	C07C

AB CH2:CHCHO reacted with MeSH in the presence of hexamethylenetetramine catalyst to give 99.0-99.8% MeSCH2CH2CHO.

ST acrolein methanethiol addn catalyst; propionaldehyde methylthio

IT Addition reaction catalysts
(hexamethylenetetramine, for acrolein with methanethiol)

IT **74-93-1**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction of, with acrolein, catalysts for)

IT **107-02-8**, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction of, with methanethiol, catalysts for)

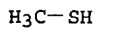
IT 100-97-0, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for addition reaction of acrolein with methanethiol)

IT **3268-49-3P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)

IT **74-93-1**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction of, with acrolein, catalysts for)

RN 74-93-1 HCAPLUS

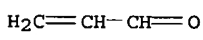
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)



IT **107-02-8**, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction of, with methanethiol, catalysts for)

RN 107-02-8 HCAPLUS

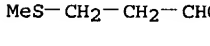
CN 2-Propenal (9CI) (CA INDEX NAME)



IT **3268-49-3P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)

RN 3268-49-3 HCAPLUS

CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



L34 ANSWER 27 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1975:16318 HCAPLUS

DN 82:16318

ED Entered STN: 12 May 1984

TI .beta.-Methylthiopropionaldehyde

IN Kojima, Takeshi; Horisawa, Toshiharu; Shimasaki, Masami; Ito, Ryoichi

PA Kanegafuchi Chemical Industry Co., Ltd.

SO Jpn. Tokkyo Koho, 2 pp.
CODEN: JAXXAD

DT Patent

LA Japanese

IC C07C; B01J

CC 23-14 (Aliphatic Compounds)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 49024890	B4	19740626	JP 1970-82267	19700919 <--
PRAI	JP 1970-82267		19700919 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 49024890	IC	C07CIC B01J

AB Amino acids catalyzed the addition of MeSH (I) to CH2:CHCHO (II). Thus, 56 g II were added to 48 g I containing 0.5 g methionine at <40.degree. over 60 min to give 93.6 g MeSCH2CH2CHO.

ST addn methanethiol acrolein catalyst; methionine catalyst addn acrolein methanethiol; amino acid addn catalyst

IT Addition reaction catalysts
(amino acids, for methanethiol with acrolein)

IT Amino acids, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for addition reaction of methanethiol with acrolein)

IT **74-93-1**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with acrolein, catalysts for)

IT **107-02-8**, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with methanethiol, catalyyts for)

IT 63-68-3, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for addition reaction of methanethiol with acrolein)

IT **3268-49-3P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)

IT **74-93-1**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with acrolein, catalysts for)

RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H_3C-SH

IT **107-02-8**, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with methanethiol, catalyyts for)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

$H_2C=CH-CH=O$

IT **3268-49-3P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)

RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

$MeS-CH_2-CH_2-CHO$

L34 ANSWER 28 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1975:16317 HCAPLUS
DN 82:16317
ED Entered STN: 12 May 1984
TI S-Substituted mercaptopropionaldehyde
IN Ito, Hiroo; Kimura, Kaoru; Sato, Masakatsu; Yamada, Akira
PA Toa Gosei Chemical Industry Co., Ltd.
SO Jpn. Tokkyo Koho, 3 pp.
CODEN: JAXXAD
DT Patent
LA Japanese
IC C07C; B01J
CC 23-14 (Aliphatic Compounds)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI	JP 49024454	B4	19740622	JP 1970-43680	19700523 <--
PRAI	JP 1970-43680		19700523 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 49024454	IC	C07CIC B01J

AB The addition of RSH (R = alkyl) to R1CH:CR2CHO (R1, R2 = H, alkyl) to give RSCHR1CHR2CHO was promoted by strong acid catalysts, which activated the double bond by protonating the CO group. Thus, CH2:CHCHO was added dropwise at 0-6.8.degree. to MeSH and HCl, then held 1 hr at 30.degree. to give 86.5% MeSCH2CH2CHO.

ST addn thiol acrolein catalyst; aldehyde alkylthio

IT **Thiols, reactions**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with .alpha.,.beta.-ethylenic aldehydes, catalytic)

IT Acids, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalysts from strong, for addition reaction of thiols with .alpha.,.beta.-ethylenic aldehydes)

IT Addition reaction catalysts
(strong acids, for alkane thiols with .alpha.,.beta.-ethylenic aldehydes)

IT Aldehydes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(.alpha.,.beta.-ethylenic, addition reaction with thiols, catalytic)

IT **74-93-1**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with acrolein)

IT **107-02-8**, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with methanethiol)

IT 7647-01-0, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for addition reaction of methanethiol with acrolein)

IT **3268-49-3P** 19378-51-9P
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)

IT **74-93-1**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with acrolein)

RN 74-93-1 HCAPLUS

CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H_3C-SH

IT **107-02-8**, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(addition reaction with methanethiol)

RN 107-02-8 HCAPLUS

CN 2-Propenal (9CI) (CA INDEX NAME)

$H_2C=CH-CH=O$

IT **3268-49-3P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)

RN 3268-49-3 HCAPLUS

CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

$MeS-CH_2-CH_2-CHO$

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FILE 'HOME' ENTERED AT 15:35:32 ON 06 DEC 2004

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